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THE BRITISH JOURNAL of TUBERCULOSIS.

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T. N. KELYNACK, M.D.

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THE BRITISH JOURNAL

OF

TUBERCULOSIS

Vol. XX.

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ORIGINAL ARTICLES.

TUBERCULOSIS WORK IN GLASGOW.

By A. S. M. MACGREGOR,

M.D., D.P.H.,

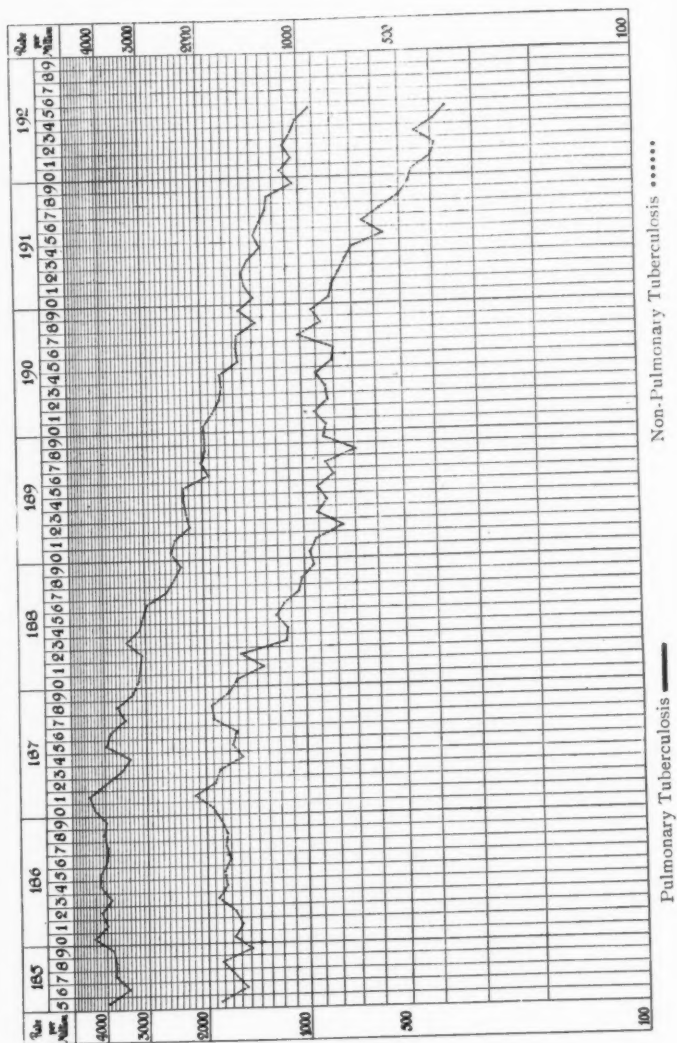
Medical Officer of Health for the City of Glasgow.

THE following is a brief account of the development and scope of the Glasgow Tuberculosis Scheme. It gives a broad view of the activities of the Corporation, and explains the principles on which the scheme is based.

The policy of the Corporation has been in great measure determined by the housing conditions of the population. Apart from the question of sanatorium treatment for early cases, the Corporation has been influenced by two considerations. In the first place, owing to the relatively large proportion of small houses in the city, the provision of institutional accommodation for pulmonary tuberculosis has to be made on a correspondingly ample scale. For this reason, one of the features of the scheme has been an extensive provision of hospital beds for the more advanced cases who are unsuitably housed. In the second place, there has been recognized the necessity for making ample provision for the appropriate treatment of the non-pulmonary or surgical forms of tuberculosis, for the treatment of which there are at present some 450 beds. This provision is being further extended with the object of ensuring that all cases discovered in the early stages of the disease will receive proper and suitable institutional treatment.

The majority of the houses are of the one or two-apartment types. The following table shows the distribution of population in the different sizes of houses at the 1921 Census, excluding the population of institutions, etc.

TUBERCULOSIS, PULMONARY AND NON-PULMONARY: DEATH-RATES PER MILLION FOR GLASGOW FROM 1855 (SHOWN ON ARITHMLOG SCALE).



TUBERCULOSIS WORK IN GLASGOW

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TABLE I.—INDICATING DISTRIBUTION OF POPULATION IN GLASGOW IN REGARD TO HOUSING.

<i>Size of House.</i>	<i>Number of Houses.</i>	<i>Percentage.</i>	<i>Population.</i>	<i>Percentage.</i>
One room	40,418	17	140,358	13'2
Two rooms	112,732	47	532,500	50'1
Three rooms	47,116	20	223,627	21'0
Four rooms and upwards	36,561	16	116,598	15'7

Thus, almost two-thirds of the population of the city are living in houses of one and two apartments, and one-fifth occupy houses of three apartments—together 84 per cent. The institutional accommodation available for all forms of tuberculosis in sanatoria and hospitals amounts to almost 1,400 beds, distributed as follows :

TABLE II.—INDICATING INSTITUTIONAL ACCOMMODATION IN CORPORATION HOSPITALS AND SANATORIA.

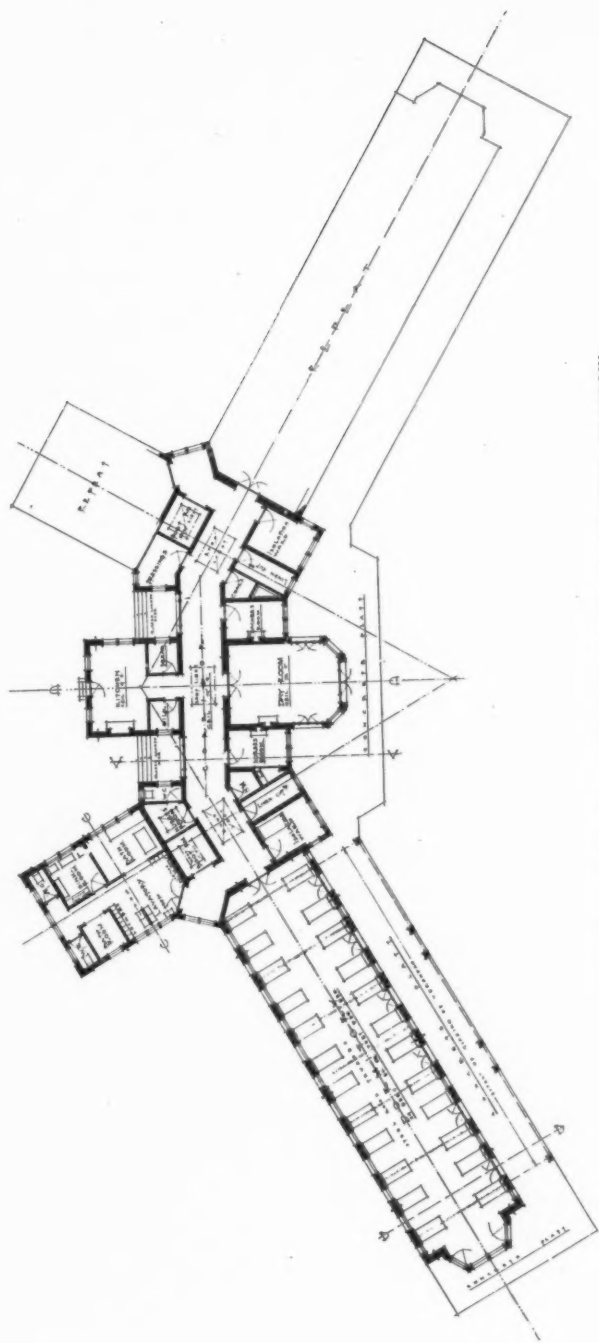
	<i>Observation.</i>	<i>Pulmonary Tuberculosis.</i>		<i>Non-Pulmonary Tuberculosis.</i>		<i>Total.</i>
		<i>Males.</i>	<i>Females.</i>	<i>Males.</i>	<i>Females.</i>	
Ruchill Hospital	34	102	136	—	—	272
Knightswood Hospital	—	80	—	—	—	80
Robroydon Hospital	—	56	56	182	254	548
Bellefield Sanatorium	—	—	50	—	—	50
Total	34	238	242	182	254	950

TABLE III.—INDICATING INSTITUTIONAL ACCOMMODATION IN NON-CORPORATION HOSPITALS AND SANATORIA.

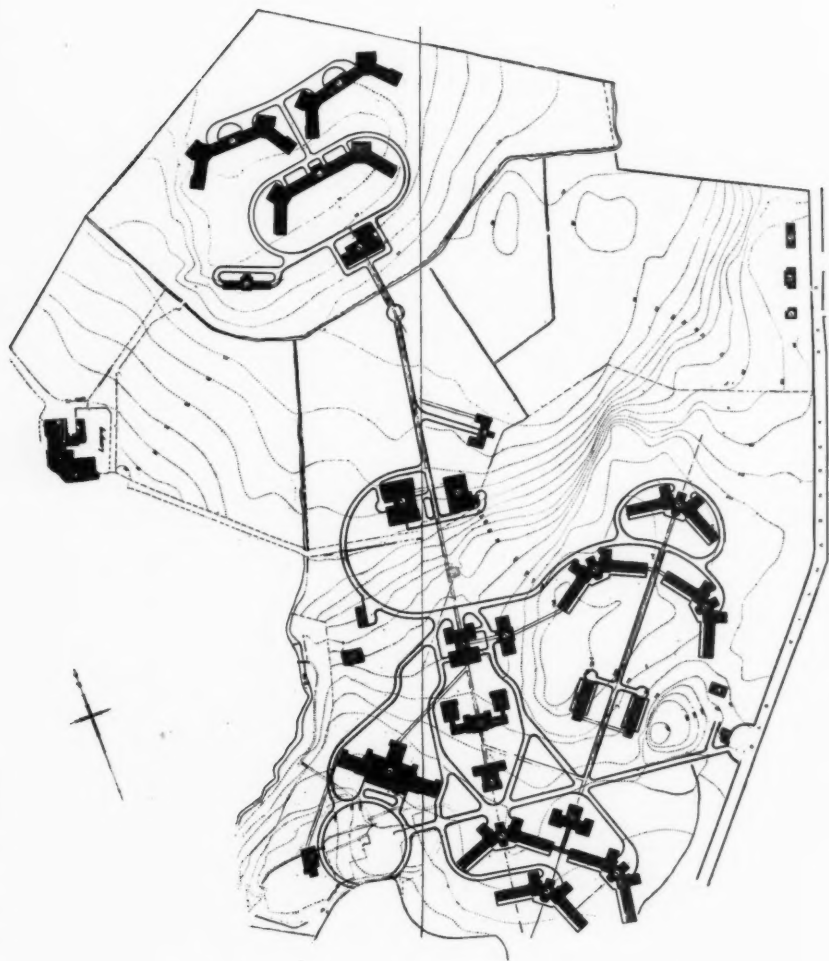
	<i>Observation.</i>	<i>Pulmonary Tuberculosis.</i>		<i>Non-Pulmonary Tuberculosis.</i>		<i>Total.</i>
		<i>Males.</i>	<i>Females.</i>	<i>Males.</i>	<i>Females.</i>	
Lanfine Hospital	—	15	10	—	—	25
Strathblane Hospital	—	—	—	5	5	10
Seaforth Sanatorium	—	—	—	7	7	14
Bridge-of-Wier Sanatorium	—	26	40	—	—	66
Dunblane Sanatorium	—	8	4	—	—	12
Ochil Hills Sanatorium	—	40	10	—	—	50
Darnley Hospital	—	10	—	—	—	10
Poor-Law Institutions	—	103	72	24	18	217
Others	—	10	—	—	—	10
Total	—	212	136	36	30	414



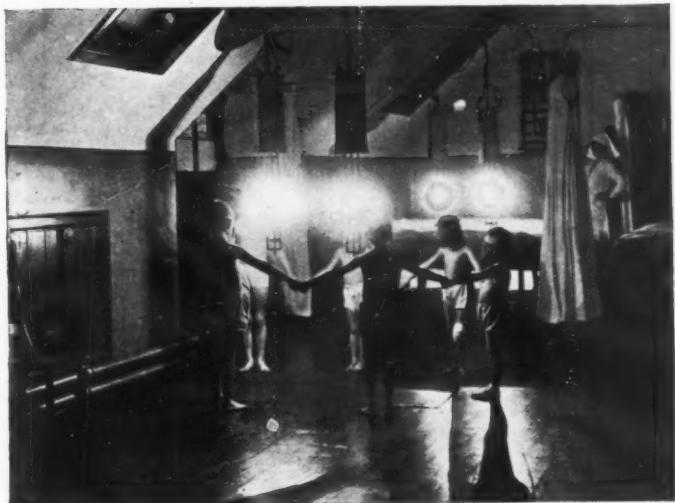
GENERAL VIEW OF ROBROYSTON HOSPITAL, GLASGOW.



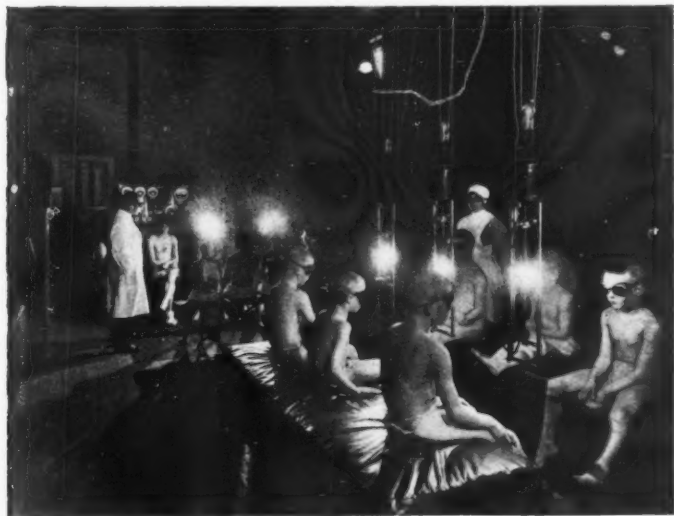
GROUND PLAN OF WARDS OF MEARNKIRK SANATORIUM, GLASGOW.



GROUND PLAN OF MEARNSKIRK SANATORIUM, GLASGOW.



CHILDREN UNDERGOING LIGHT TREATMENT AT THE RECEPTION HOUSE, BAIRD STREET, GLASGOW.



LIGHT TREATMENT AT ROBROYSTON HOSPITAL, GLASGOW.

Of this total some 200 beds may be regarded strictly as sanatorium accommodation for early cases, while 450 are devoted to the treatment of the non-pulmonary or surgical forms of the disease. The remaining beds are occupied mainly by the more advanced types. On reading the data illustrative of housing conditions, along with the institutional provision, the reason for the relatively large amount of accommodation provided for advanced cases will be obvious. This policy is based on both preventive and humanitarian considerations.

The above-mentioned 450 beds for non-pulmonary tuberculosis have been provided at Robroyston Hospital. The utility of an institution of this kind depends upon its capacity to receive patients promptly as they are recognized in order to avoid complications, such as crippling and deformity, which are liable to ensue, especially where patients have had periods of antecedent treatment of a temporary or unsuitable character, and present themselves with abscesses which have been opened, and with sinuses which have become septic. For these reasons it was decided to make a further provision of 330 beds at Mearnskirk Hospital and Sanatorium, an institution which is now in course of erection on modern and up-to-date lines on the uplands to the South of Glasgow, some eight miles from the city. When this institution has been completed, the total provision for the non-pulmonary forms of tuberculosis will reach 750 beds, or one bed per 1,300 of the population, which should be sufficient for this type of case.

These, then, are the general principles on which the Glasgow scheme has proceeded. In addition to this, the city has five tuberculosis dispensaries, with a staff of five clinical medical officers and twenty-one health visitors. There is an observation ward with thirty-four beds at Ruchill Hospital, with an associated X-ray department, at which full advantage is taken for diagnostic purposes, both for the hospital itself and for the outdoor dispensaries.

Facilities for treatment by ultra-violet rays have also been provided in association with one of these clinics, while provision has been made at Robroyston Hospital for this form of treatment. The results have been excellent, especially in the treatment of lupus and of bone and joint tuberculosis.

The death-rate from pulmonary tuberculosis in Glasgow in 1925 was the lowest recorded, being 0.9 per 1,000 of the population. This rate has continuously declined since 1870, when it was almost 4 per 1,000 persons. The death-rate from non-pulmonary tuberculosis has suffered a similar reduction, especially rapid since the beginning of the century.

For comparative purposes the following table shows the rate of decline in the phthisis death-rate per 100,000 persons in Glasgow, as compared with certain other large towns in Scotland and England,

from which it will be noticed that the higher rates now prevail in the large English cities.

TABLE IV.—INDICATING MORTALITY FROM PHTHISIS IN GLASGOW AS COMPARED WITH OTHER CITIES.

	1913.	1920.	1921.	1922.	1923.	1924.	1925.
Glasgow	143	106	101	107	101	101	92
Edinburgh	114	85	91	87	94	101	95
Dundee	116	99	100	98	98	85	87
Aberdeen	109	93	91	88	81	91	97
London	—	106	107	108	97	98	95
Liverpool	—	141	127	140	125	130	130
Manchester	—	133	130	127	124	118	131
Birmingham	—	95	97	97	92	97	98

MEDIASTINAL BULGING IN ARTIFICIAL PNEUMOTHORAX.

By S. VERE PEARSON,

M.D., M.R.C.P.,

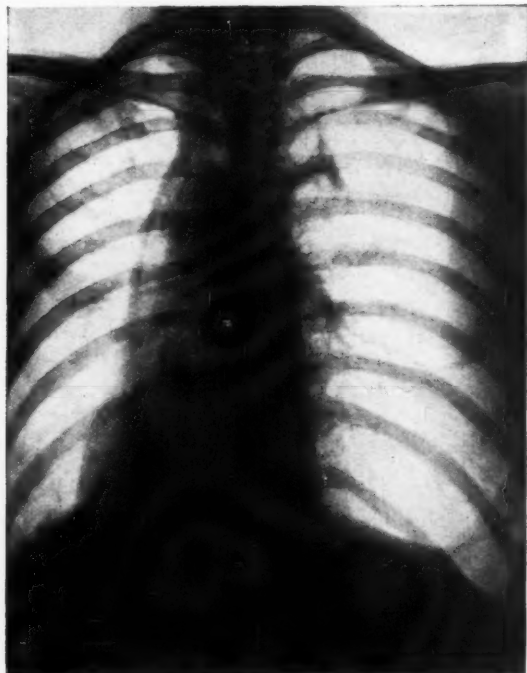
Physician to the Mundesley Sanatorium.

SOMETIMES in the treatment of pulmonary tuberculosis by artificial pneumothorax the membranes of the mediastinum are unduly elastic, and displacements of the introduced gas arise into regions where it is not wanted. It is such displacements that I name "Mediastinal Bulgings." They have little to do with the excessive excursions of the heart unsupported by lung tissue, undue "cardiac bulgings" as these might be called, to which Dr. Rist made reference in a recent lecture,¹ nor to the more or less normal respiratory excursions shown by fluoroscopy in cases of pneumothorax then so ably described by him.

The subject of mediastinal bulging is a big one. There is still much to be learnt about it, partly because too little attention has been given to precise observations and a thorough study of the displacements which take place when a pneumothorax is present on one side of the chest. This article is based upon a review of many patients who have exhibited this symptom in the course of artificial pneumothorax treatment at my hands during the last sixteen years.

¹ See report of lecture delivered before the Royal Society of Medicine, a reported in the *Proceedings of the Royal Society of Medicine*, 1925, vol. xviii., p. 1. Section: Electro-therapeutics.

The mediastinum is divided anatomically into anterior, middle, superior, and posterior. The anterior mediastinum is unimportant in connection with the subject now under review. Many years ago I had a patient whose anterior mediastinum became invaded with gas. The emphysema there produced and under the skin was extensive and for several days distressing. Fortunately, as generally happens in these cases, all the symptoms caused by the emphysema subsided in a week



CASE OF MISS B. C. M. TAKEN FROM BEHIND (TO ILLUSTRATE MEDIASTINAL BULGING).

with the absorption of the gas. Such accidents nowadays are rarer than formerly, because practitioners have learnt to keep pressures lower, and not to be too keen on attempting to overcome tiresome adhesions by means of raising pressures.¹

The distinction between the superior and posterior mediastinum is arbitrary. The posterior mediastinum continues up into the superior

¹ Reference to Fishberg's well known treatise on "Pulmonary Tuberculosis," p. 819, provides observations on emphysema occurring in the production of artificial pneumothorax.

above the level of the four dorsal vertebra, which is taken as the limit of the superior mediastinum posteriorly, while the lower border of the manubrium sterni is its anterior limit. The middle mediastinum contains the heart and pericardium, which may be considerably displaced by a pneumothorax, fortunately generally without producing any symptoms. In the days when pressures ruled higher the amount of displacement of the heart sometimes produced a systolic murmur



CASE OF MISS B. C. M. TAKEN FROM RIGHT ANTERIOR OBLIQUE POSITION (TO ILLUSTRATE MEDIASTINAL BULGING).

suggesting an organic valvular lesion. Even with lesser degrees of displacement, crepitations outside the border of the heart may be produced on the contra-lateral side. These are due to interference with the tongue of pleura reflected in the neighbourhood of the heart's border. But the important region from the point of view of mediastinal bulging is the posterior mediastinum. Even in a normal chest there is a reflection crossing the medial line of the right pleural potential cavity between the œsophagus and the body of the vertebra. It is in this region that considerable encroachment of one pleura across the middle

line may occur in the case of artificial pneumothorax. It is surprising that more symptoms are not sometimes produced. I have not come across any complaint, for example, of difficulty in swallowing, nor any indication of serious circulatory interference. The bulging reacts upon the most yielding substance in the thorax, and that is the lung. Interference with the function of the contra-lateral lung is the important effect produced by mediastinal bulging. The presence of this condition is best ascertained by fluoroscopy. But, short of this, if a patient takes more gas at a refill than would normally be anticipated for a patient of that size, if this is associated with undue dyspnoea after the refill, and if that gas appears on screening to be pressing the lung to a poor extent, mediastinal bulging has probably occurred. It is essential to screen the patient in, amongst others, the right oblique position. In that position note should be taken of the breadth of the mediastinal clear area. This may be broadened perhaps to three or four times beyond the normal width of that bright area. Apart from that sometimes, generally, in fact, in any case where much bulging occurs, in the ordinary anterior position a clear crescentic area with a linear marginal shadow with its convexity away from the pneumothorax side can be seen. During respiration this crescentic line moves. During inspiration the line moves towards the pneumothorax side. If the mediastinal encroachment is a partial one, such a shadow may appear very puzzling, and be difficult to interpret unless its condition be understood. Occasionally the "ballooning" may be so partial as to produce only a circular outline of encroachment on the sound side. Such appearances may or may not be associated with considerable displacement of the middle mediastinum containing the pericardium and heart. They are rather more often than not so associated. Cardiac displacement can be considerable without producing the slightest symptom.

The sure way of detecting the existence and ascertaining the extent of ballooning is by means of X-rays. Apart from this, however, ordinary physical examination is helpful. Percussion shows hyper-resonance across the middle line in front, and, to a less extent, over the contra-lateral lung. Auscultation sounds produced by flicking or stroking with the fingers, or by clinking with coins, or a finger struck by a thimble on the next one, will often give further and more detailed information with regard to the ballooning than plain percussion. Such signs present themselves anteriorly, even though the mediastinal encroachment is at the back of the chest.

Drs. Parfitt and Crombie¹ seem to think that a flexible mediastinum is indicated by a slow rise in the intrapleural pressures when an injection is being given, with relatively stationary points in the reading

¹ See article by Parfitt and Crombie in *American Review of Tuberculosis*, 1919-1920, vol. iii., p. 385.

somewhere near the zero mark, after one or two consecutive decilitres of gas have been introduced. I cannot confirm these observations. One finds a relatively small amplitude and sluggish movement of the manometer fluid apart from a fixed or flexible condition of the mediastinum.

The causes of mediastinal bulging are generally put down to the pressures being too high, and sometimes to the presence of fluid. It seems, however, as if the tendency to undue giving of the pleura is due more to inherent conditions which cannot be obviated than to high pressures. It is true that ballooning is more likely to occur in the early stages of treatment, and of course great care has to be taken if there are any indications of its occurrence not to raise the pressures unduly. My impression is that ballooning is particularly likely to happen when some adhesions prevent the gas introduced from compressing the lung nicely. It would probably be decidedly less frequent if resort was had to the use of the thoracoscope more frequently. Cauterization of band-like adhesions after the method of Jacobæus would obviate attempts being made to overcome the drawbacks of such adhesions by high pressures.

The prognosis when mediastinal bulging occurs is not necessarily worse, though it is naturally more difficult to regulate the artificial pneumothorax if ballooning occurs. But I have records of many cases where serious ballooning was present, sometimes with production of symptoms, which have eventually made good and lasting recoveries. Regarding the treatment of the condition there is little to be said beyond mentioning the necessity for keeping pressures low and using the X-rays often. A Coolidge or Metalix tube for screening is an advantage, and examinations at intervals of about a fortnight are advisable. A hard-and-fast rule cannot be laid down. Examination in the upright position, in the ordinary dorso-ventral, and the two classical oblique positions are best, and particularly, perhaps, in the right anterior oblique.

THE EMPLOYMENT OF THE CONSUMPTIVE.

By JAMES WATT,

M.A., M.D., D.P.H.,

Chief Medical Officer, Medical Tuberculosis Service, Metropolitan Asylums Board.

THE Joint Tuberculosis Council have done excellent service in making a survey of the problem relating to the employment of cases of pulmonary tuberculosis after sanatorium treatment; and the Committee

entrusted with the work—namely, Dr. Jane Walker, Dr. H. Vallow, Dr. D. P. Sutherland, with Dr. J. B. McDougall as convener—deserve every acknowledgment of their labours.

In a valuable addendum to their report the Committee publish details of all the schemes operating in this country for the employment of the consumptive. These details refer mainly to the organization and business management of the schemes, including hours of work, industries, markets, provision of capital, wages, and housing. The medical aspects, such as stage of disease, frequency of relapse or death, and ratio of successful to unsuccessful settlers or trainees, are very lightly touched on, presumably because the information on such questions was seldom supplied to the Committee. The latter do not set out to examine critically the actual work done at the various training colonies, except in so far as is necessary to estimate the success of each colony in training patients in occupations from which they afterwards earn their livelihood.

In their report the Committee indicate that "as a result of occupations which have been developed on business or commercial lines, 419 ex-patients are receiving employment as wage-earners." Presumably this figure represents approximately the total number of ex-patients now employed as a result of the activities of all the training colonies, settlements, and other schemes for employing consumptives in this country. Ex-patients employed on the staffs of institutions as nurses, maids, porters, etc., are not included, because it is impossible to ascertain their number. This figure of 419, while representing a very great relief of the distress of those fortunate individuals and their dependents, does not impress one as a great contribution to the campaign against tuberculosis. The Committee express no definite opinion on this. Here and there in the appendix they give facts, as in extracts from Dr. Noel Bardswell's report to the London County Council, which show that the percentage of failures is very high, and do much to support the opinion held by many that the large amount of effort and the heavy financial outlay involved may be justified on grounds of philanthropy, but can hardly be justified as a necessary or important public health measure for the eradication of tuberculosis. Against this, the report adduces the value of settlements and colonies in removing the infective or potentially infective individual from the mass of the population, the economic value to the State of keeping each individual up to his greatest productive capacity, and the advantage of saving the community the cost of other institutional treatment or of monetary benefits. A good *prima facie* case is thus made out for the settlement of consumptives as the best solution of a social problem.

Another fact noted in the report raises in one's mind the question whether as good or better results could not be attained in another way

with much less expenditure of effort and money. This is the successful experiment carried out by Dr. Jane Walker at her East Anglian sanatorium at Nayland, where over 100 ex-patients are on the staff as nurses, maids, porters, etc., out of a total of 150. No organization has yet made any sustained effort to induce public bodies and ordinary commercial enterprises to absorb the large number of suitable consumptives into the ordinary work of the community. If the same amount of effort as is now engaged in existing employment schemes were enlisted in such a campaign, how much might it not achieve?

With regard to the occupations selected for ex-patients, farm work is ruled out as being too arduous, pig and poultry farming as requiring too much ground for a settlement. Sheltered climatic conditions, a sure market for the output, shortness of the training period, dependence on repetition work, and simple machinery to secure mass production of a suitable article for which there is a fair demand, are the chief factors in deciding what occupations should be taken up. The success or failure of an industry, then, largely depends on the careful selection of the "key" men or foremen, who are best qualified if they have themselves been patients and have previously been skilled in their line of work.

Much of the report is concerned with the financial aspect of employment schemes. As the trainees or settlers work in most cases only six hours a day, and their output is frequently 30 or even 50 per cent. less than that of a trained workman working the same number of hours, while goods have to be turned out at competitive prices, it is not surprising that none of the schemes is economically self-supporting, except the *Factory-in-the-Field*, Leeds. This undertaking, however, is run on ordinary business lines as a workmen's co-operative society, in which the working week consists of forty-four hours, and each man is paid for the number of hours he works. Even in this case, though a substantial profit is made, half the capital is borrowed free of interest. In all other cases a subsidy in some form or other is required, whether it be by the provision of capital free of interest, the assistance of unpaid patients' labour, payment of the salaries of the medical director or instructors, or by making up trading losses by voluntary subscriptions or out of public funds.

In the opinion of the Committee, the subsidy may take any form except the last. In other words, the scheme is unsatisfactory if it cannot defray maintenance and wages of the workers out of the surplus on the trading accounts. There is no doubt a psychological satisfaction in being able to say that in this sense a scheme is self-supporting, but this must not obscure the fact that a subsidy is necessary in the provision either of initial capital or of some form of assistance to meet the overhead charges.

Interesting details are given of the costs of providing houses or

hostels for settlers, of the difficulties which arise in settling rates of remuneration, and of the value of thorough business methods with canvassing and advertising in finding markets for goods manufactured. In marketing, philanthropy finds no place.

The conclusions reached by the Committee are that employment centres for consumptives are best established either in connection with existing sanatoria (and Papworth may be included in this group), or in workshops on the lines of the Factory-in-the-Field, or by combining vocational training at a sanatorium with after-employment in a workshop, as in the Spero Leather Works. It is regarded as a mistake to establish institutions *de novo* as training colonies and settlements. The Committee are obviously impressed by the comparative success of schemes of training and settlement which have started in a small way and have developed gradually, and by the comparative failure of schemes which have started off more ambitiously, and recommend that any industrial undertaking for consumptives which may seem theoretically sound, but which must necessarily involve a large capital expenditure, should not be encouraged without very strong evidence being forthcoming as to the possibilities of its success in actual practice. It is pointed out that at none of the training colonies inaugurated by the Ministry of Health has there been any serious attempt made to continue the work on a settlement or proper industrial basis, whereby ex-trainees may become permanent wage-earners, and supply a nucleus for the further development of an industrial settlement for tuberculous persons, and we are left to infer that these schemes were a failure on that account.

What the Committee recommend is that each sanatorium should be the origin and nucleus of its own settlement, beginning with occupational therapy, training suitable patients concurrently with treatment, and then settling them one by one as funds allow. Opinion is divided as to whether the capital required for initiating and expanding such employment schemes should come from voluntary contributions, or be provided by the State or the local authority. It is realized also that success depends on having the right kind of director in charge of the scheme. Enthusiasm, driving power, and business ability, coupled with a pretty free hand, are the essentials.

The Committee recognize that their report can only be regarded as a preliminary report, since some of the schemes dealt with are making almost monthly progress. They suggest a continuance of their labours, and it is gratifying to know that the Joint Tuberculosis Council have asked them to submit further reports on the same lines at yearly intervals.

AN IMPRESSION OF THE GLASGOW CONFERENCE OF THE NATIONAL ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS.

By JOHN GUY,

M.D., D.P.H., F.R.C.P.E.,

Deputy Medical Officer of Health and Chief Tuberculosis Officer for the City of Edinburgh.

THE annual conference of the National Association for the Prevention of Tuberculosis is always a landmark in the tuberculosis world. It marks another milestone on the long road towards the abolition of the disease. The twelfth conference was opened at Glasgow, July 1, 1926, by the Right Hon. the Lord Provost of Glasgow. Sir Arthur Stanley, Chairman of the Association, presided, and in his introductory address spoke shortly on the propaganda work of the Association, and intimated that in about two weeks' time there would be launched a scheme appealing for and aiming at the sum of £100,000. This would enable the Association to put into operation a great popular educational campaign regarding the causes and prevention of tuberculosis. This scheme has now been launched with a dinner in London, at which the Prince of Wales was present and contributed to the fund.

The Lord Provost (Sir Matthew W. Montgomery), in the course of his remarks, drew attention to the great fall in the number of deaths from tuberculosis which had taken place. In the year 1898, 70,000 persons died by it, whereas only approximately 47,000 died in 1924. All the credit for the fall could not, of course, be attributed to the activities of the Association, but the propaganda work carried on by the Association was in fact contributory to this satisfactory progress. The Lord Provost further spoke on the causes of the disease—namely, impure milk, impure food, the overcrowding with absence of space and sunlight, and also pointed out that municipal effort should be urgently directed towards the remedying of these defects.

Dr. McGregor, Medical Officer of Health for Glasgow, opened a discussion on "Provision for the Care of Non-Pulmonary Tuberculosis." He stated that in several districts of the country the provision of beds for this class of case was quite inadequate, and schemes dealing with non-pulmonary tuberculosis should be pressed on with vigour. As to their own provision in Glasgow they had already some 450 beds, but this was insufficient, and a further provision was contemplated, bringing the number up to about 750, or one bed for every 1,300 of the population. He looked forward to the time when the cripple, produced

by tuberculosis, would no longer be seen in our midst—a hope which does not seem unreasonable.

Mr. James Taylor, Consulting Surgeon to the Glasgow Corporation, pleaded for earlier admission to the special hospitals, and so a twofold result might be more readily achieved. First the duration of residence would be considerably shortened, and so greater numbers could be more expeditiously dealt with and at less expense per case; and, secondly, that the amount of crippling would be greatly lessened. He also expressed the opinion that a great amount of money at present spent on institutions might be saved if a larger expenditure of money was found to provide better housing conditions and better environment, so that the city dweller could get more advantage of sunshine and fresh air. This expenditure at the beginning would be very heavy, of course, but in the end it would prove to be a saving.

Dr. J. G. Johnston, of Heatherwood Hospital, Ascot, spoke on the need for the provision of institutions, not only large national hospitals, but by the provision of a large number of special hospitals throughout the country. He indicated that the directors of the United Services Fund had recently inaugurated a scheme to assist forward their projects. Other speakers following emphasized the necessity for early treatment, and dwelt upon the urgent necessity for improving the housing conditions, as this was the most important preventive measure, and too little had been heard of it during the conference.

Sir Robert W. Philip opened the first afternoon session by reading a paper on "The Place and Function of the Dispensary in the Tuberculosis Scheme." He stated that the dispensary demonstrated as no other agency could the extensive ramification of tuberculous disease, and how that by the "march past" of an infected household the disease could be detected in its very earliest stage. By the domiciliary visits of the nursing staff attached to those dispensaries, houses could be actually reformed from a hygienic point of view, and the home conditions made on "sanatorium" lines.

Dr. W. B. Knobel questioned as to whether the dispensaries were organized on right lines, as after years of work and propaganda three-quarters of the cases which came to the dispensary were of the advanced type and not in a curable stage. He hoped that the time would come shortly when there would be a closer co-operation between the factory surgeon and the tuberculosis officer, so that the young entrants to the factories could be kept under a more careful supervision than at present.

Dr. G. Lissant Cox spoke on two aspects of the dispensary work—namely, diagnosis and prevention. He pleaded for a thorough equipment of the dispensary with X-ray department and laboratory.

Dr. James Crocket stated that as at present conceived the dispensary

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was not an ideal arrangement. It should, in his opinion, be a place where the family practitioner could come for advice. Dr. J. MacCallum Lang spoke in similar terms.

The second day's proceedings were opened by a paper from Professor Carl Browning on "Experimental Studies in Tuberculosis in Reference to the Origin of Pulmonary Tuberculosis." He stated that there were many problems yet unsolved, but that the tubercle bacillus gained entry to the body as a rule by inhalation. This way, of course, did not prevent its entrance by other channels, as he had himself injected tubercle bacilli into the abdominal cavity of mice, and they had later developed tuberculosis of the lung. He hoped that ultimately some remedy such as sanocrysin might be found.

Ex-Bailie W. Broomhill Smith, O.B.E., contributed a paper on "Glasgow's Solution of the Smoke Problem." He dealt at some length on the technical difficulties, but showed how these could be and have been overcome. He spoke of the important part played by the smoke cloud in cutting off the sun's rays, and especially the violet ray part of the spectrum, and its importance to health. He concluded his paper by showing on the screen some photographs illustrating the effect of smoke on the clarity of the atmosphere.

Dr. J. A. Wilson, Clinical Medical Officer for Glasgow, read a paper on the age factor in the incidence of tuberculosis.

The last paper of the session was contributed by Dr. Alexander Smith (Senior Resident Physician, Robroyston Hospital). He spoke on "Some Experiences in the Treatment of Tuberculosis by Artificial Sunlight." His main experience was with the open Carbon Arc Lamp, and to a lesser extent with the Mercury Vapour Lamp. He was much impressed by the value of the violet rays as an adjunct in the treatment of non-pulmonary tuberculosis, and was of opinion that, generally speaking, those who pigmented well did best. Striking results were obtained in the various forms of lupus, and in all patients there was a general feeling of well-being experienced.

Dr. Fergus S. Henderson, Radiologist to the Glasgow Corporation Hospitals, gave an excellent demonstration of various tuberculous conditions of the chest.

The third day was occupied by visits to various housing schemes and hospitals under the Corporation for the treatment of tuberculosis in its various forms. This concluded the twelfth annual conference, attended by approximately 300 delegates from all parts of the country.

ASSOCIATIONS AND INSTITUTIONS.

THE NATIONAL ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS.

THE National Association for the Prevention of Tuberculosis was founded at a meeting held at Marlborough House in December, 1898, presided over by the late King Edward VII., then Prince of Wales. Its object is the prevention of tuberculosis. The Association consists of ordinary and of life members. The contribution of ordinary members is 5s. annually. Those who subscribe annually a sum of not less than one guinea are enrolled as subscribing members. Life members give a donation of five guineas. The methods adopted by the Association are as follows: I. The education of public opinion and the stimulation of individual initiative by means of (a) a central office for the collection and distribution of information as to modes of diffusion of tuberculosis and measures of prevention; (b) the circulation of pamphlets and leaflets setting forth in plain language the results of scientific investigations of the above points; (c) public lectures by men approved by the Council, addresses at congresses and other public gatherings; (d) co-operation with other societies having for their object the promotion of public health; (e) the co-operation of the public press; (f) periodical congresses and the issue of an annual report; (g) the promotion of the establishment of open-air sanatoria for tuberculous patients. II. The influencing of Parliament, County Councils, Boards of Guardians, Chambers of Agriculture, and other public authorities on matters relating to the prevention of tuberculosis. III. The establishment throughout the kingdom of local branches of the Association. Secretaries of branches are supplied with all literature at cost price.

The Association is now entering on a forward movement, initiated at a dinner held this summer, at which the Prince of Wales presided. A special appeal for £100,000 is being launched. The Council of the Association are appealing to everyone to come to their help. It is the intention of the Association (1) To render aid to pressing claims for help, communal and individual, rendered necessary by the inroads of tuberculosis when the need cannot adequately be met, if at all, by provisions rendered possible by statute. Few workers in tuberculosis can have failed to be faced with difficulties of the kind. For the more pressing of these the Council of the Association feels there is an imperative call to find a solution. (2) To commence a plan of intensive popular education regarding the causes and prevention of tuberculosis by means of first-class lecturers, who would for a given period act in co-operation with local health authorities, medical practitioners, and social agencies throughout the country. The benefit to the nation, physically and economically, following on such intensive effort would

be incalculable. (3) To devise and develop a thorough and practical scheme of tuberculosis care committees, which, following on awakened public opinion, would be applicable through the country. The urgent need for the establishment of such care committees is generally felt by those who have touched the subject, and has been endorsed by the Ministry of Health. And yet, from lack of means and knowledge, the disastrous gap in our armament continues. His Majesty the King is Patron of the Association and the Prince of Wales is its President. Sir Arthur Stanley is the Chairman of the Council, Professor Sir Robert W. Philip Vice-Chairman, and the Right Hon. H. J. Tennant Hon. Treasurer. Full particulars may be obtained on application to the Secretary, Miss Stickland, at the headquarters of the Association, 19, Tavistock Square, W.C. 1.

The Society of Superintendents of Tuberculosis Institutions in association with the Tuberculosis Society is arranging for a "tuberculosis week-end," November 19-22. On November 19 a paper will be read by Dr. Strandberg, and Sir StClair Thomson and Mr. Somerville Hastings will participate in the discussion thereon. A discussion will also be held on Memorandum 37T. On November 20 visits will be made to certain sanatoria within easy reach of London. On November 22 Dr. Armand Delille will give a paper on "Diagnosis of Bronchiectasis and Lung Cavities by Intra-Tracheal Injections of Lipiodol," and Dr. F. G. Chandler will open the discussion. A paper will also be read by Dr. Schroder on "Specific Therapy." Further particulars may be obtained on application to the Hon. Secretary, Dr. J. R. Dingley, Darvell Hall Sanatorium, Robertsbridge, Sussex.

NOTICES OF BOOKS.

SANOCRY SIN AND THE TREATMENT OF TUBERCULOSIS.

DR. KNUD SECHER has prepared a work which deals with sanocrysin treatment from every point of view.¹ It should prove most interesting to the student of tuberculosis. The various reactions and complications are described in detail, and the author compares many of them to symptoms which have been reported after the administration of tuberculin. It is suggested that several of the reactions following sanocrysin are due to the liberation of toxins, although some, and especially those occurring late in the treatment, are undoubtedly due to metallic poisoning from the drug itself. A very full account is given of the mode and rate of excretion of sanocrysin, knowledge of which will enable the physician to avoid cumulative poisoning. With regard to dosage, the author states that it is his practice to obtain a high concentration of sanocrysin during the first two or three injections, and he controls the reactions by serum. The opinions of others are quoted, many of whom use very small doses, and the author suggests that the beginner should start by using small doses, and afterwards he can adapt his dosage according to his experience. A large portion of the book is given up to the study of results. Not only the author's own cases but those of many other clinicians are considered in detail. It seems clear that many cases improved, and some with a rapidity which is striking, but it is yet early to judge the late results. As with other methods of treatment, the best results occur in the early cases. Dr. Secher's work is not an enthusiastic endeavour to advocate sanocrysin treatment. It is a fair statement of the author's experience, and he gives at considerable length the opinions and experience of other clinicians, whether or not they are in agreement with him. Few will disagree with his opinion that sanocrysin should not be used alone but combined with any other treatment which may improve the condition of the patient; for this applies to any and all of the special treatments advocated for tuberculosis.

L. S. T. BURKELL, M.D.

THE USE OF TUBERCULIN.

Dr. Camac Wilkinson is an enthusiastic advocate for the employment of tuberculin in the diagnosis and treatment of tuberculosis. His latest book is a sequel to his Parkes-Weber Prize Essay published in 1912, and is intended to prepare the way for the reopening of his Tuberculin Dispensary.² Many will be glad to welcome Dr. Wilkinson's able exposition of the faith that is still in him. The book opens with a presentation of modern conceptions regarding tuberculosis as formulated by Koch, von Behring, Orth, Ranke, Flugge, and others, and a

¹ "Treatment of Tuberculosis with Sanocrysin and Serum," by Knud Secher, M.D. Pp. 256. London: William Heinemann. 1926. Price 21s. net.

² "The Principles of Immunity in Tuberculosis," by W. Camac Wilkinson, B.A. (Syd.), M.D. (Lond.), F.R.C.P., late Lecturer in Pathology and in Medicine at the University of Sydney. Pp. viii+141. London: Nisbet and Co., Ltd., 22, Berners Street, W. 1. 1926. Price 10s. 6d.

discussion of problems connected with infection and immunity. Then follow chapters on The Early Lesions of Tuberculosis, Chronic Phthisis, The Early Diagnosis of Tuberculosis, and The Nature of Immunity in Tuberculosis. But the chief interest of Dr. Wilkinson's monograph centres in the chapter on The Tuberculin Dispensary. This it is contended serves a twofold purpose: to treat patients and to train experts in the exploitation of the reactions of immunity in diagnosis, prognosis, and treatment. Dr. Wilkinson is quite explicit and confident in his belief that "the tuberculin dispensary is the best, the cheapest, the most comprehensive, the most convenient, and the most effective weapon of defence and attack for the prevention and treatment of consumption (chronic phthisis)." Dr. Wilkinson dogmatically states that "there is no real evidence that small doses of tuberculin, given properly for the purpose of establishing the diagnosis of tuberculosis in an early stage, is fraught with the least danger." He contends that "when diagnosis is difficult, treatment is easy; when diagnosis is easy, treatment is difficult." Dr. Wilkinson would have a central tuberculin dispensary fully equipped for the training of the experts of the future. He thinks that at the present time sanatoria reject the serious cases which they should receive, and accept the cases which should be treated at a tuberculin dispensary. Dr. Wilkinson's theoretical views and practical endeavours are of great interest to the open-minded and unprejudiced student of tuberculosis; but it must be admitted that he oftentimes urges his contentions with such insistence, dogmatism, and condemnation of those who are not in agreement with him, that a spirit of criticism and opposition is apt to be aroused even among those who sympathize with his aims and endorse much of his teaching regarding the principles of immunity in tuberculosis.

LIGHT TREATMENT IN SURGICAL TUBERCULOSIS.

Dr. O. Bernhard is a pioneer in the development of sunlight treatment, especially for cases of so-called surgical tuberculosis. Since 1902 he has made use of heliotherapy, and he still continues at work in his sanatorium, with its thirty-three beds, at St. Moritz. Dr. Bernhard realizes that much of his success is due to the climatological conditions existing in the high Alps, and especially the pure, cool, bracing air, together with rest, supervised exercise, suitable dietary, and strict hygienic management. Dr. King Brown has won our grateful thanks by the preparation of an excellent English translation of Dr. Bernhard's great book, which the publishers have issued in a worthy form.¹ Professor Leonard Hill in his sympathetic Foreword, based on personal knowledge of the great master and his work and home at St. Moritz, points out that Bernhard insists that neither the sun nor artificial-light treatment by themselves will achieve results equal to those given by a combination of light, dietetic, and climatic treatment, and adds: "The recent introduction into British welfare centres of arc-light treatment

¹ "Light Treatment in Surgery," by Dr. O. Bernhard, of St. Moritz, Switzerland. Translated by R. King Brown, B.A., M.D., D.P.H., Medical Officer of Health, Bermondsey, and Lecturer in Public Health, Guy's Hospital Medical School. With a Foreword by Leonard Hill, M.B., F.R.S., Director of Department of Applied Physiology, National Institute of Medical Research. Pp. xii + 317, with 105 figures. London: Edward Arnold and Co., 41 and 43, Maddox Street, W. 1. 1926. Price 21s.

seems to show that, while some children respond well to light treatment alone, others to gain benefit require cod-liver oil and milk in addition, and still others, where tenement home conditions are bad, may not respond." This is a practical point which needs constantly to be borne in mind. Professor Hill contends that "the day has come when operative treatment of surgical tuberculosis is unjustifiable, other than the aspiration of abscesses and removal of sequestra." Dr. Bernhard's great work opens with an able essay on the historical aspects of sun-culture and sun-treatment, and this is followed by a comprehensive study of the physical and meteorological aspects of sunlight, the intensity and duration of solar radiation, and the effects of light on living organisms, and particularly on animals and men. Professor E. Wölfflin, of Bale, furnishes an interesting communication on the physiological effect of light on the eye. The chapter on the pathology of sunlight, with its reference to so-called sensitizers or photo-catalyzers will be of special value to all investigators. In the chapter on light therapy there are references to general sun-baths, thermotherapy, chromotherapy, and actinotherapy, together with descriptions of some of the artificial sources of light. In the section devoted to the consideration of climatology it is shown that for the conduct of heliotherapy mountainous districts in southernly places and having a southern slope are most suitable. The references to the effect of the high mountains on man deserves the serious consideration of medical advisers. The second part of the volume should appeal specially to surgeons and all who are responsible for the treatment of cases of tuberculosis and other diseases by sunlight. Here the author gives the results of his long experience, and illustrations are provided of many actual cases which have been restored under heliotherapy. If Dr. Bernhard's masterly work could be studied without prejudice and free from bias by surgeons in this and other lands, there can be no doubt but that a rapid advance would be secured in the scientific treatment of surgical tuberculosis.

ULTRA-VIOLET LIGHT THERAPY.

"Treatment by ultra-violet light has come to stay as a very important and useful means of treatment in a good many of the diseases which every doctor is called to deal with," declares Sir John Robertson in his commendatory Foreword to the handbook which has recently been issued by Dr. McKenzie and Mr. King.¹ Their work is primarily intended for medical practitioners desiring to make use of actinotherapy, and furnishes in a condensed, lucidly expressed series of nine chapters the essentials of ultra-violet radiation therapy. The matter composing the volume is conveniently arranged in 190 numbered sections, and in these are explained the nature and service of radiant energy; the materials used in radiation therapy; the various forms of quartz-mercury vapour lamp advocated; and the best means whereby an installation may be arranged. A chapter is devoted to the important matter of dosage, and this is followed by one on treatment by means of

¹ "Practical Ultra-Violet Light Therapy," by T. Clyde McKenzie, M.B., Ch.B. and A. A. King. A Handbook for the Use of Medical Practitioners. With a Foreword by Sir John Robertson, C.M.G., M.D., B.Sc., Medical Officer of Health for Birmingham. Pp. 108. London: Ernest Benn, Ltd., 8, Bouverie Street, E.C. 4r 1926. Price 6s.

applicators. In the section dealing with actinotherapy for various diseases particulars are given as to the best way in which tuberculous subjects can be dealt with. The authors state definitely that "it is essential in treating all cases of tuberculosis that the subjective symptoms be noted." As regards the treatment of pulmonary tuberculosis the authors write: "The value of ultra-violet radiation treatment for phthisis has been under discussion for some time, and doubts are from time to time expressed with regard to it; our own experience, however, using the mercury vapour arc, has converted us in its favour." They suggest that for work in industrial districts the following classification may be adopted: (1) Cases where the symptoms suggest tubercle, but yet there are no definite physical signs nor other direct evidence of phthisis. (2) Cases where the early signs of phthisis are evident. (3) Persons returning to work after sanatorium treatment. (4) Those unable to work or to attend a sanatorium. Dr. McKenzie and Mr. King have produced an informing and helpful manual which is certainly likely to encourage many practitioners to take up ultra-violet light therapy.

THE QUARTZ-MERCURY VAPOUR LAMP.

Dr. J. Bell Ferguson has rendered medical officers of health and medical practitioners generally a valuable service by the preparation of his concise, lucid, and thoroughly practical exposition of the possibilities of the quartz-mercury vapour lamp in public health services as well as in general practice.¹ Sir Henry Gauvain, in his commendatory Introduction, claims that the quartz-mercury vapour lamp provides the most generally suitable means for the application of actinotherapy in private practice and in small clinics. "It is easy to use, effective, rapid in action, rich in ultra-violet light of therapeutic value, clean, economical both in first cost and current consumption, suitable for either a general light bath or local treatment. It occupies little space, and is easily installed in a doctor's consulting room." Dr. Ferguson furnishes a condensed account of the physical, chemical, and physiological properties of ultra-violet rays and their application in the treatment of disease, and describes in detail the practical use of the quartz-mercury vapour lamp in connection with public health work, and particularly in regard to the services of the Tuberculosis, Maternity, and Child Welfare and School Medical Departments. The work is of special value in that it gives actual records of cases dealt with in connection with the author's official duties at Smethwick. The book is well illustrated, and contains an excellent diagram, showing the range of sixty-two octaves of electro-magnetic waves.

TUBERCULOSIS OF THE UPPER AIR-PASSAGES.

Medical superintendents of sanatoria and all medical advisers dealing with consumptive and other tuberculous cases should make a point of

¹ "The Quartz-Mercury Vapour Lamp: its Possibilities and Uses in Public Health and General Practice," by J. Bell Ferguson, M.D., D.P.H., Medical Officer of Health, Tuberculosis Officer, and School Medical Officer, County Borough of Smethwick. With an Introduction by Sir Henry J. Gauvain, M.A., M.D., M.C., Medical Superintendent, Lord Mayor Treloar Cripples' Hospitals. Pp. xii+106. With 38 illustrations in 13 plates and in the text. London: H. K. Lewis and Co., Ltd. 1926. Price 6s.

always investigating the condition of the nose and throat. The importance of this will be manifest by a study of the new edition of Sir StClair Thomson's fine text-book, a work specially designed for students and practitioners, and affording a complete and up-to-date account of rhino-laryngology.¹ The whole work has undergone thorough revision, and new sections have been added. The book is effectively illustrated, and several of the plates are in colours. As a reliable and thoroughly practical guide Sir StClair Thomson's handsome volume is unrivalled. Experts will also appreciate it. Readers of this journal will be specially interested in the sections on Tuberculosis of the Upper Air-Passages. Excellent descriptions are given of lupus as met with in the naso-pharynx and larynx. A special chapter is devoted to tuberculosis of the larynx, and is provided with coloured illustrations. The author as laryngologist to King Edward VII. Sanatorium at Midhurst has had exceptional opportunities for studying laryngeal tuberculosis. His detailed account and suggestions for treatment merit the study of all tuberculosis officers and others called to deal with consumptive cases. Laryngeal involvement in patients with pulmonary tuberculosis was found present in 25 per cent. of the cases investigated by the author. "Statisticians are of opinion that for every single case of pulmonary tuberculosis which succumbs during a year there are ten others still suffering from it. As 32,097 individuals died of this disease in England and Wales in 1923, there must have been 320,970 ill with it during the year. As, on an average, the proportion of these with laryngeal complication was 1 in 3, we arrive at a total of 106,990 as the number of patients annually requiring relief for laryngeal symptoms." Tuberculosis appears to attack the larynx with equal frequency in both sexes when they are exposed to similar conditions, and the disease is most frequent between the ages of twenty and forty. The pathological and clinical features of the disease are described in detail. As regards treatment, much valuable advice is given. As to climate, it is pointed out that "it is more important how a patient lives than where he lives," and the opinion is given that "there is no foundation for the objection to high altitudes for laryngeal tuberculosis, if mountain air is not otherwise contra-indicated by the presence of fever, tachycardia, hæmoptysis, and so forth." The statement is made that, "treated with the Finsen arc-light, cures have been obtained in 53 per cent. of cases of laryngeal tuberculosis, even in out-patients residing in Copenhagen." In a volume which throughout has been prepared and produced with the greatest care and precision it is difficult to give special praise to one section more than to another, but before concluding this all too brief notice we would express thanks-giving for the scientifically arranged and remarkably complete index.

ALCOHOL AND TUBERCULOSIS.

Dr. Courtenay C. Weeks, in his comprehensive study on the employment of alcohol in medical practice, furnishes a valuable table indicating the outlay on alcohol in British sanatoria, together with notes

¹ "Diseases of the Nose and Throat, comprising Affections of the Trachea and Esophagus," by Sir St. Clair Thomson, M.D., F.R.C.P., F.R.C.S. Third edition. Pp. xvi+943, with 12 colour and 12 black-and-white plates, and 379 figures in the text. London: Cassell and Co., Ltd. 1926. Price 45s.

from the medical superintendents.¹ There is also a table of sanatoria abroad, with remarks by their responsible heads. Dr. Rollier, of Leysin, says: "As a rule I do not allow my patients to make use of wine or liquors." Dr. Amrien, of Arosa, says: "We do not use alcohol in treatment." Dr. Weeks, in analyzing his returns for British sanatoria, finds that "There were 2,460 beds in average daily occupation, and in those sanatoria £135 worth of wines and spirits used, averaging 1s. per bed, 3·3 pence per patient. Allowance was made for those sanatoria where alcohol is used very rarely. In the hospitals 437 beds were in average daily occupation, and £184 was used for wines and spirits, averaging 8s. 5d. per bed, 15·7 pence per patient." Alcoholism is undoubtedly a predisposing agent in the development of tuberculosis, and acts as an antagonistic factor in the arrest of the disease in many cases. The best opinion would seem to disapprove the use of alcohol in the treatment of practically all cases of tuberculosis.

MANUALS FOR MEDICAL ADVISERS AND WORKS OF REFERENCE.

The study and treatment of tuberculosis is a speciality which, although tending to restrict one's range of interest, really demands for their successful pursuit a wide outlook, and at least a general acquaintance with nearly all departments of hygiene and modern medicine. It is of the greatest importance that tuberculosis officers, medical superintendents of sanatoria, and all who would advise regarding the management of tuberculous patients, should keep up to date in matters medical. It is certain that tuberculosis is often overlooked, and it is to be feared that not infrequently cases are diagnosed as tuberculous when the chief trouble is due to conditions quite other than those connected with tuberculosis. Moreover, even when a tuberculous lesion is present and active, it must be remembered that other diseases may also be present. Errors of omission or commission can only be avoided by constant vigilance. Every medical practitioner devoting himself to the care of tuberculous patients should make a point of reading through at least once a year Dr. Tidy's most serviceable "Synopsis of Medicine."² A new and fourth edition has recently appeared. The first edition was issued in 1920, and the work by its intrinsic merits and practical value has speedily won far-extending popularity. It is admirably arranged, and provides in the concisest form reliable up-to-date descriptions of diseases grouped mainly on the lines of that employed by Osler in his great work on the "Principles and Practice of Medicine." The latest edition of Dr. Tidy's invaluable synopsis has undergone thorough revision, many of the articles have been rewritten, and some new sections have been added. The book contains an excellent account of tuberculosis in its various forms. There is a suggestive diagram illustrating the morbid anatomy of chronic pulmonary tuberculosis. The sections devoted to treatment

¹ "Alcohol in Medical Practice, with a Chapter on the Evolution of Medical Opinion," by Courtenay C. Weeks, M.R.C.S., L.R.C.P. Pp. viii + 186. London: H. K. Lewis and Co., Ltd. 1925. Price 3s. 6d.

² "A Synopsis of Medicine," by Henry Letheby Tidy, M.A., M.D., B.Ch., F.R.C.P., Assistant Physician to St. Thomas's Hospital. Fourth edition, revised and enlarged. Pp. xv + 1000. Bristol: John Wright and Sons, Ltd. 1925. Price 21s.

are of a thoroughly practical character. The book is provided with an elaborate index, which makes rapid reference easy. We have nothing but admiration and praise for Dr. Tidy's cleverly constructed work.

Professor E. W. Hope and Dr. C. O. Stallybrass have just issued a new and ninth edition of the "Text-Book of Public Health," which for so many years has provided medical students and practitioners preparing for a diploma in public health with an ideal text-book.¹ The present edition has undergone rearrangement, and much has been rewritten, while new chapters have been added on General Epidemiology, the Welfare of Motherhood and Childhood, and Occupational Hygiene. The chapter on Legislation has been extended to include statutory additions and revisions. The work consists of thirteen chapters, dealing with Legislation affecting Public Health, Meteorology, Lighting, Air, Ventilation, Smoke Prevention, Warming, Clothing, Food, Water, Site and Soil, Construction and Sanitation of Buildings, Town Planning, Sewering and Sewage Disposal, Disposal of Refuse, Vital Statistics, General Epidemiology, Infective Diseases and Hospitals, Disinfection, Welfare of Motherhood and Infancy, the Health of the School Child, and Occupational Hygiene. Drs. Gamlin and Glover have assisted in the revision of the section on Tuberculosis, which affords an excellent general survey, and provides statistical and other data. "In one or other of the many forms tuberculosis causes in Britain about one death in every twelve. In England and Wales in 1922 the death-rate was 1.12 per 1,000 at all ages; 79 per cent. of these, being a rate of 0.89 per 1,000, were due to the pulmonary form of the disease; deaths from pulmonary tuberculosis form 7 per cent. of the deaths from all causes. The figures of the Registrar-General show that the mortality from tuberculosis has been diminishing in England and Wales during the past seventy years, and that it is diminishing more rapidly in females than in males. About 50 per cent. of the total deaths from non-pulmonary tuberculosis occur at ages under five, and about 18 per cent. at ages five to fifteen. In 1910, 92 per cent. of the deaths from the pulmonary form were of persons over the age of fifteen years, and occurred mainly during the age-period twenty-five to forty-five years, the most active period of working life." There is a suggestive section on After-Care. "The problem of after-care is by no means so simple of solution as was at one time thought. We are satisfied to-day that it is not sufficient to advise a quiescent case of tuberculosis to obtain work on a farm. Quite apart from the fact that city men and women are not equipped for work in the country, it is evident that farm work, to be successful, is extremely laborious, and has to be waged under all weather conditions. The time has come when it must be decided whether local authorities or voluntary agencies are prepared to make provision for the suitable employment of those who have recovered or who are partly recovered from tuberculosis. It can be regarded as axiomatic that most employments are suitable provided that they are not too laborious, are waged under proper conditions, and are free from the competitive element. The tuberculous cannot com-

¹ "Text-Book of Public Health," by E. W. Hope, O.B.E., M.D., D.Sc., Professor of Public Health, University of Liverpool; and C. O. Stallybrass, M.D. (State Medicine), D.P.H., Assistant Medical Officer of Health, City of Liverpool; Lecturer on Public Health Administration, University of Liverpool. Ninth edition, revised and enlarged. Pp. x+350, with 71 illustrations. Edinburgh: E. and S. Livingstone. 1926. Price 15s. net, postage 9d.

pete in the open market with their undamaged fellow-citizens any more than can the blind. It may be that the provision of municipal workshops, etc., would not prove to be, initially, productive of saving money, but it is undoubtedly true to say that in the long run they would relieve this country of much expenditure on destitution, they would materially diminish the spread of infection from relapsed poverty-stricken cases, and they would, in addition, restore to those employed in them the feeling of usefulness and self-respect so difficult to maintain in the case of a chronic and very prolonged illness." Sympathetic reference is made to the combined sanatorium and industrial colony at Papworth, Cambridgeshire. The volume contains a section on Tuberculosis in Childhood. A word of praise is due to the publishers for the admirable way in which the work has been produced.

Young practitioners and senior students as well as many older medical advisers have long desired a concise, clear, and up-to-date manual regarding physical agents now frequently employed in the practice of medicine, and usually grouped together in a hospital in what is called its electrical department. Dr. J. R. Riddell has now provided just the book which many have been waiting for.¹ It opens with a general introduction to electro-therapeutics and the examination of the electrical reactions of nerves and muscles, and then follows a series of excellent chapters on the production and control of the Roentgen rays and their action on living tissues; X-rays in diagnosis; X-rays in treatment; the use of radium; the application of light; and the employment of carbon dioxide snow. The book is effectively illustrated by wisely selected and well-produced radiographs and other illustrations. In the section on light are pictures of tuberculous children, provided by Rollier of Leysin. We have nothing but praise for this compact, sensible, and helpful introduction to medical electricity and radiology. It should be in the hands of every student of modern medicine.

In the care of tuberculous cases it is essential that constant attention should be directed to all matters related to digestion. Every case should also be carefully investigated for any evidences of gastro-intestinal disease. In studying the disorders of digestion and examining for signs and symptoms of gastric disturbance much assistance may be obtained from Professor H. Maclean's new book on "Modern Views on Digestion."² It is a member of the serviceable "Modern Medical Monographs" series, of which Dr. Maclean is the general editor, and it furnishes a concise account of our existing knowledge of gastric physiology and pathology. Much of present-day treatment of digestive derangements is empirical rather than based on certain physiological data. Dr. Maclean's monograph provides the busy practitioner and the senior student with a particularly interesting, reliable, and helpful general account of the physiological processes involved in the preparation of food for absorption, and indicates the main principles on which

¹ "Handbook of Medical Electricity and Radiology," by James R. Riddell, F.R.F.P.S., Lecturer on Electrical Diagnosis and Therapeutics, University of Glasgow, etc. Pp. xv+239, with 110 figures. Edinburgh: E. and S. Livingstone, 16 and 17, Teviot Place. 1926. Price 8s. 6d.

² "Modern Views on Digestion and Gastric Disease," by Hugh Maclean, M.D., D.Sc., M.R.C.P., Professor of Medicine, University of London, and Director of the Medical Clinic, St. Thomas's Hospital. Pp. x+170, with 14 charts and 23 figures. London: Constable and Co., Ltd. 1925. Price 12s.

the modern treatment of gastric ailments are founded. The work opens with a condensed account of anatomical and physiological characters and a description of the fractional test meal, and then follow chapters on the chief gastric diseases and their symptoms, gastric and duodenal ulcers, gastritis, and carcinoma of the stomach. There are also sections on the chemical examination of the gastric contents and fæces, and the radiological examination of the alimentary canal. The concluding chapter provides suggestive and helpful notes on the treatment of gastric diseases. There are several instructive figures and charts.

Dr. James Adam, in 1913, published a comprehensive study of asthma which has for some time been out of print. A new edition has recently been issued, revised, enlarged, and brought up to date.¹ Asthma still remains one of the most distressing and baffling of diseases involving the chest. Dr. Adam contends that it is essentially a toxæmia, and the view he holds has been corroborated by his investigation of 850 cases on which this monograph is mainly based. The work is effectively presented in fourteen chapters, and shows that the author is a man with powers of penetrating observation, and has read widely and thought deeply. The concluding chapter on treatment contains suggestions which should be helpful to the general practitioner as well as being of interest to the chest specialist.

Dr. G. D. Head has written a suggestive little work on what he designates "The Exhaustive Type of Hidden Tuberculous Infections."² He describes a slow-burning fire of low-grade tuberculous infection, which manifests itself in such an insidious manner as to escape detection by the usual clinical methods of diagnosis; "the stamp of neurasthenia or nervous exhaustion is usually placed upon those persons so affected." Dr. Head contends that this type of tuberculosis fails of recognition unless the specific tuberculin tests are used to assist in establishing the nature of the infection. The author in a series of suggestive chapters expounds his views, and offers valuable evidence in the form of reports on thirty cases.

A new edition has recently been issued of the chart-sheets and accompanying directions for use in the care of tuberculous patients, prepared by Drs. Webb and Ryder.³ This novelty should be helpful to medical advisers who are responsible for the supervision of tuberculous patients in sanatoria or in their own homes. It is a suggestive and really serviceable guide to the recovery of consumptives, one which a patient, honestly desirous of co-operating loyally and scientifically with his doctor, may be recommended to study. The great principle and practice advocated is rest.

Dr. W. B. Blanton has produced a handbook for clinicians which

¹ "Asthma and its Radical Treatment," by James Adam, M.A., M.D., C.M., F.R.C.P. and S. (Glas.), Hon. Surgeon, Diseases of the Ear, Nose, and Throat, Glasgow Royal Infirmary, etc. Second edition, revised and enlarged. Pp. 224. London: Henry Kimpton, 263, High Holborn, W.C. 1. 1926. Price 10s. 6d.

² "Concealed Tuberculosis, or 'The Tired Sickness': A Clinical Study upon the Exhaustion Type of Hidden Tuberculous Infections," by George Douglas Head, B.S., M.D. Pp. ix+137. Philadelphia: P. Blakeston's Son and Co., 1012, Walnut Street. 1924. Price \$2.00.

³ "Recovery Record for Use in Tuberculosis," by Gerald B. Webb, M.D., Consulting Physician, Cragmor, Glockner, and Sunnyrest Sanatoria; and Charles T. Ryder, M.D., of the Colorado School of Tuberculosis, Colorado Springs, Colorado. Second edition revised. Pp. 79 and chart sheets. New York: Paul B. Hoeber Incorporated, 67-69, East Fifty-ninth Street. 1925. Price \$2.00.

is a novelty among manuals devoted to physical diagnosis.¹ It is a collection of tables and condensed, orderly arranged skeletal statements in notebook form regarding normal findings in healthy individuals, revealed on systematic physical and instrumental examination. The volume only needs to be known and used to be appreciated by all who desire to have a sure foundation for clinical work in hospital service or general practice.

Mr. Barcroft's original work on "The Respiratory Function of the Blood" is being issued as a second edition in parts, and Part I. is entitled "Lessons from High Altitudes."² The author is a sea rover of distinction as well as a well-known physiological investigator, and his studies on functional conditions as influenced by high altitudes will be of great interest to airmen, mountaineers, and travellers, as well as physiologists and medical advisers. The book before us consists of thirteen chapters, and deals with such subjects as Mountain Sickness and its Cause, Dwellers at High Altitudes, the Colour of the Face and its Significance, the Diffusion of Oxygen through the Pulmonary Epithelium, Muscular Exercise, the Hydrogen-Ion Concentration of the Blood, the Strain of the Heart, the Number and Nature of the Red Corpuscles, and Acclimatization. In the appendices are Notes on Physiological Difficulties in the Ascent of Mount Everest. The work is furnished with a number of illustrations and charts, and at the end of each chapter is a serviceable bibliography. There is much in this able monograph which should appeal to medicals working in connection with sanatoria, and particularly those situated at high altitudes.

The late Mr. Hunter Tod, in 1907, published a manual on diseases of the ear, which was so greatly appreciated by medical practitioners and senior students that by 1912 it has passed through four large impressions. A second edition has recently been issued, revised and largely rewritten, by his, the author's, friend Mr. George C. Cathcart.³ The work has been thoroughly brought up to date, and now serves as a reliable guide to present-day otology. The work would seem to be of special service to candidates entering for the new diploma in laryngology and otology, and it is certainly a volume which deserves the study of tuberculosis officers and medical superintendents of sanatoria as well as all doctors in general practice. The manual opens with an account of the development, anatomy, and physiology of the ear, and methods of clinical examination, and then follows a series of chapters dealing in detail with the various forms of aural disease. A section is devoted to a consideration of tuberculous involvement of the ear. When the disease is primary it generally begins with the mastoid process, but as a rule it is secondary to tuberculous disease elsewhere.

¹ "A Manual of Normal Physical Signs," by Wyndham B. Blanton, B.A., M.A., M.D., of Richmond, Virginia, and Associate in Medicine of the Medical College of Virginia. Pp. 215. St. Louis, Mo., U.S.A.: The C.V. Mosby Co., 3616, Washington Buildings. 1926. Price \$2.50.

² "The Respiratory Function of the Blood." Part I.; "Lessons from High Altitudes." By Joseph Barcroft, Fellow of King's College, Cambridge. Pp. x + 207, with 35 figures. London: The Cambridge University Press, Fetter Lane, E.C. 4. 1926. Price 12s. 6d.

³ "Hunter/Tod's Diseases of the Ear," revised and largely rewritten by George C. Cathcart, M.A., M.D., Consulting Surgeon to the Throat Hospital, Golden Square. Second edition. Pp. xiv + 333, with coloured frontispiece and 3 other plates in colour, and 87 figures in text. London: Humphrey Milford, Oxford University Press. 1926. Price 5s.

"The middle ear may be affected through the Eustachian tube, either from the infected sputum in pulmonary tuberculosis or from tuberculous affection of adenoid growths. Sometimes the infection seems to take place through the blood-stream." It is shown that the disease occurs more frequently in children than in adults, and may be either acute or chronic, affecting one or both ears. "In a young child a painless chronic discharge from the ear with facial paralysis is almost pathognomonic of tuberculous disease." It is stated that a guarded prognosis should always be given. The volume is effectively illustrated.

Professor A. J. Hall has provided medical practitioners with a complete account of epidemic encephalitis, usually designated Encephalitis Lethargica, in one compact, conveniently arranged volume, which is based on the author's Lumleian Lectures, delivered before the Royal College of Physicians in 1923.¹ The first known outbreak occurred in Vienna as recently as 1917. Dr. Hall has produced a work which every medical practitioner will be well advised to study with care and in its entirety. He furnishes an admirable historical account of the disease, and discusses fully its epidemiology, morbid histology, bacteriology, and what has been revealed by experimental enquiries. There are most useful chapters dealing with clinical manifestations and the later manifestations or residua of the disease. A closing chapter is devoted to a consideration of diagnosis, prognosis, and treatment. The volume is an indispensable guide to all who would gain reliable information regarding this terrible and infectious disease which is comparatively new to mankind. It contains a close-set bibliography which extends over seventy-four pages.

Dr. Laird has issued a second edition of his suggestive little volume on the prevention and treatment of tuberculosis.² The author is a strong advocate for the employment of calcium salts in the treatment of tuberculosis, and urges his case with much vigour and an array of interesting data and records based on long personal experience.

Mr. A. E. Hayward Pinch, Medical Superintendent of the Radium Institute, has prepared two volumes which merit the careful study of all interested in radium therapy. No lengthy review of these admirable works is necessary, as we understand that a copy of each will be sent post free to any medical practitioner making application to the Secretary of the London Radium Institute, Mr. Thomas A. Garner, F.C.I.S., 16, Riding House Street, Portland Place, W. 1.³ The Director of the Radium Institute and his colleagues furnish detailed accounts of the

¹ "Epidemic Encephalitis (Encephalitis Lethargica)," by Arthur J. Hall, M.A., M.D., F.R.C.P., Professor of Medicine, University of Sheffield, and Senior Physician, Sheffield Royal Hospital. Pp. xii + 229, with 17 plates (1 fully coloured) and other illustrations. Bristol: J. W. Wright and Sons, Ltd. 1924. Price 12s.

² "Tuberculosis: Its Prevention and Treatment (with Notes on Rheumatism and Cancer)," by John Laird, L.R.C.P. and S. (Ireland). Second edition. Pp. 130. Bristol: John Wright and Sons, Ltd. 1925. Price 5s. 6d.

³ "A Clinical Index of Radium Therapy," by A. E. Hayward Pinch, F.R.C.S., with "The Clinical Aspects of the Work of the Research Department, May, 1919, to December, 1924," by J. C. Mottram, M.B., D.P.H., Director of the Pathological Laboratory, and "The Evolution of the Present-Day Technique of the Preparation of Radium and Radium Apparatus," by W. L. S. Alton, F.I.C., Director of the Chemo-Physical Laboratory. Pp. x + 164. 1925.

"A Manual of Technique in Radium Therapy," by A. E. Hayward Pinch, F.R.C.S. Pp. 47, with 40 plates. 1926. London: The Radium Institute. Published with the authority of the Committee.

work undertaken since the opening of the Institute in August, 1911, and during which time some 14,500 patients have been dealt with, and over 103,000 treatments administered. The physics of radium is explained, the technique of its application described, and accounts given of its services in many and various diseases. Reference is made to the treatment of lupus and other cutaneous tuberculous lesions. The latest volume gives particulars of the apparatus employed, and furnishes an admirable series of plates illustrating the Institute and its work.

The International Labour Office at Geneva has issued a very practical volume on artificial limbs and appliances for the disabled, prepared by Dr. F. Martin.¹ It is a work which will be of far-reaching service to medical advisers and others desirous of rendering help to disabled persons, who through injury in war or in the course of industrial vocations or who are crippled by tuberculosis or other diseases stand in need of artificial limbs or other mechanical assistance. Mr. Albert Thomas, the Director of the International Labour Office, in his prefatory notes explains how the work was undertaken, and says "it is intended to present information to all those who for any reason are interested in artificial appliances: disabled soldiers or sailors, persons injured in industrial accidents, institutions for insurance against accidents, invalidity, sickness, etc. It should provide anyone who wishes to obtain an artificial appliance for any given mutilation, with precise data as to the conditions which should be fulfilled by any satisfactory appliance, and the best types of limb manufactured in the different countries." We would commend the study of this able and generously illustrated monograph to all interested in cripples, and particularly to the orthopaedic surgeons of this country, who have to advise oftentimes regarding the provision of appliances to compensate for limbs lost through the ravages of tuberculous disease.

Mr. T. Crew has compiled a comprehensive and up-to-date guide to activities relating to health and matters connected with publicity and education in their relation to personal and public hygiene and general welfare.² It is a work which will be of great value to medical officers of health, and all others who are in connection with approved societies, city and county councils, education committees, infant and child welfare centres, nursing associations, voluntary health societies, and all other agencies working for human betterment in this country.

Messrs. Sutton and Sons, of Reading, have issued a seventeenth edition of their authoritative guide to the culture of vegetables and flowers.³ This informing handbook is a compendium of all matters relating to scientifically directed horticultural development from seeds and roots, providing detailed guidance regarding a year's work in the

¹ "Artificial Limbs: Appliances for the Disabled," by Dr. Florent Martin, Director of the Technical and Scientific Institute of Artificial Limb Fitting, Brussels. Pp. xvi + 299, with 517 figures. Geneva: International Labour Office. 1924. Price 5s. or \$1.20.

² "Health Compendium and Health Publicity," by T. Crew, F.F.I., F.I.H., Clerk to Leicestershire Insurance Committee. With a Foreword by Professor A. Bostock Hill, M.D., M.Sc., D.P.H., Chairman of the Health Week Committee of the Royal Sanitary Institute. Pp. 260, with illustrations. Leicester: The Reader Printing Co., Ltd. 1926. Price 7s. 6d.

³ "The Culture of Vegetables and Flowers from Seeds and Roots," by Sutton and Sons, of Reading. Seventeenth edition. Pp. 462. London: Simpkin Marshall, Hamilton, Kent, and Co., Ltd. 1926. Price 7s. 6d.

vegetable garden, the chemistry of garden crops, and the culture of flowers all the year round. There are valuable chapters on garden pests and the way they are to be combated. The work is admirably got up, and will be of service to those who are dealing with gardening enterprises in connection with sanatoria, settlements, and like centres for patients requiring an open-air life and congenial healthy occupation.

The well-known firm of W. Martindale has issued a serviceable pocket-book, containing in well-arranged form particulars of preparations likely to be prescribed by consultants and general practitioners.¹ There is a suggestive list of agents arranged according to therapeutic requirements.

In "Venereal Diseases Information" for August 20 (vol. vii., No. 8), issued by the United States Public Health Service, is a special article on "Syphilis associated with Tuberculosis," with valuable bibliography.²

Dr. Henry R. Harrower, of the Harrower Laboratory, Glendale, California, has just issued a useful little volume on "The Endocrines and Blood-Pressure," which is likely to be of interest to clinicians dealing with tuberculous cases in which high blood-pressure is a feature.³

The August issue of *The Prescriber*, edited by Dr. Thomas Stephenson, 6, South Charlotte Street, Edinburgh (price 2s. 2d., post free, each number; annual subscription, 20s., post free), contains a valuable summary of numerous recent publications dealing with tuberculosis, and including papers on sanocrysin, communications on the Spahlinger treatment and notes on various preparations.

The October number of *Tubercle* contains a suggestive paper, illustrated by a series of skiagrams, on "Lipiodol as an Aid to Diagnosis in Intrathoracic Disease," by Drs. L. S. T. Burrell and Stanley Melville.

¹ A copy of "Special Preparations prepared and stocked by W. Martindale" may be obtained by medical advisers on application to 10, New Cavendish Street, W. 1.

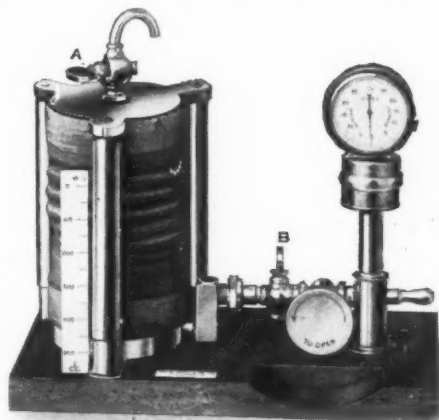
² "Venereal Diseases Information" is issued periodically by the Treasury Department of the United States Public Health Service (Hugh S. Cumming, Surgeon-General), edited by Mark J. White, Assistant Surgeon-General and Chief of the Division of Venereal Diseases, and published by the Government Printing Office, Washington.

³ A copy of Dr. Harrower's book on "The Endocrines and Blood-Pressure" may be obtained on application to Endocrines, Ltd., 72, Wigmore Street, W. 1.

PREPARATIONS AND APPLIANCES.

A PORTABLE PNEUMOTHORAX APPARATUS.

DR. FREDERICK HEAF, Medical Superintendent of the Warwickshire King Edward VII. Memorial Sanatorium, Hertford Hill, near Warwick, has introduced a new and portable apparatus for the production of artificial pneumothorax, and has favoured us with the following description: The pneumothorax apparatus here illustrated has been designed to meet three conditions: (1) portability and convenience; no fluids are used in connection with any part. (2) Simplicity of manipulation; the instrument can be controlled with one hand all through the conduct of the operation. (3) The air or gas is under constant pressure at all times,



THE HEAF PORTABLE PNEUMOTHORAX APPARATUS.

The Overall size in case is $10\frac{3}{4}'' \times 6\frac{1}{4}'' \times 8\frac{1}{2}''$.

and can be introduced into the patient's pleura at any desired pressure up to 25 cm. of water. The apparatus consists of a collapsible bellows made of double-lined rubber canvas. It is supported by three guides, and arranged so as to fall steadily under the weight of a metal cap attached to the tubes which slide over the three guides. A graduated scale shows the amount of air at any moment in the bellows, which, when full, hold approximately 500 c.cm. A tap is placed on the top of the bellows for the purpose of filling with air or any gas desirable; whilst at the base is the outlet which leads the air or gas through a second tap and a reducing valve. A manometer is fixed at this point, and is in direct connection with the pneumothorax needle. The in-

sertion of a second manometer between the bellows and the fine adjustment valve is not really required, as the air in the reservoir is under constant pressure. A simple air filter is placed between the manometer and the needle. In use the tap B is closed and the tap A opened. The bellows are raised by the hooked tube until the stop is reached. The tap A is then closed. This procedure can be easily performed with one hand, and may be repeated as many times as desired during the operation. The reducing valve between the tap B and the manometer is then closed, and the manometer adjusted to zero. The needle is now ready to be inserted into the pleural cavity, and as soon as this is reached a good oscillation of the needle on the manometer dial will be noticed. The tap B is now opened, and the reducing valve is *very slowly* unscrewed until an increase in the mean of the oscillation of the needle is noticed. This indicates that the air or gas is flowing from the bellows into the pleural cavity. The amount of air desired is allowed to pass into the patient's chest, and then tap B is closed, and a reading of the intra-pleural pressure obtained. If it is insufficient the tap B is opened again, and the rate of the flow of gas or air adjusted by the reducing valve. If more air is required than the capacity of the bellows, the tap B and the reducing valve are closed, tap A opened, and the reservoir filled as before. A good knowledge of the flow of air can be readily obtained by noticing the rising mean pressure registered by the manometer. This latter part of the apparatus has been found very reliable, but for safety it can be easily tested against a water manometer every month or so. The instrument possesses a distinct advantage over former water-syphon types in that the pressure of the air or gas emitted from the reservoir does not decrease as the operation proceeds, and can be completely controlled by the reducing valve. The instrument is made by Messrs. Philip Harris and Co., Ltd., Edmund Street, Birmingham, and is supplied in convenient case, price complete £12 12s.

"SILVALUX" LAMP.

It is very essential that in hospitals, sanatoria, nursing homes, and indeed wherever patients are under treatment and doctors and nurses have to work, proper arrangements should be made for illumination. Among the many forms of electric lamps now available the Siemens gasfilled "SILVALUX" (opal) merits special commendation, for it provides well-diffused illumination without the aid of any reflector, and effectively screens the high intensity light from the eyes.¹ The lamp is made of special two-ply glass, and there is an inner lining of clear glass, with an outer casing of pure white opal glass, and thus the "Silvalux" when in use gives a ball of soft, comforting, effective light without glare. Moreover, the lamp does not easily collect dust, and can be readily cleaned. It should also be noted that this form of electric lamp is particularly well suited for use on the balconies and verandahs of sanatoria and in laboratories, and indeed in all situations where unshaded lights are necessary.

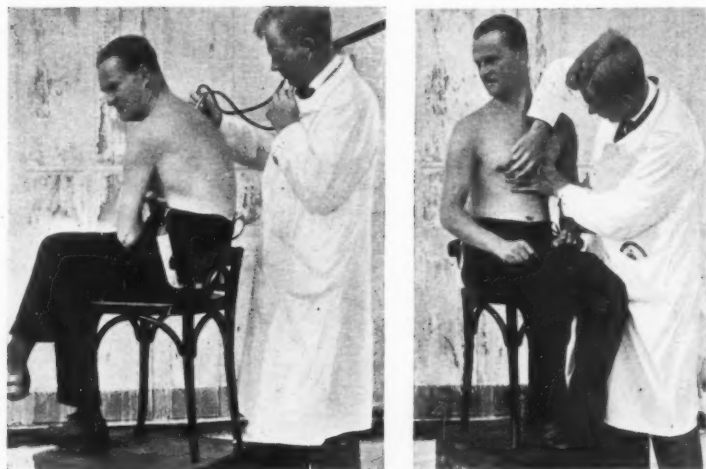


"SILVALUX"
LAMP.

¹ Particulars regarding the Siemens "Silvalux" Electric Lamp can be obtained on application to Siemens and English Electric Lamp Co., Ltd., 38-39, Upper Thames Street, E.C. 4.

AN EXAMINATION CHAIR FOR CHEST CASES.

During a recent visit to the Palace Sanatorium at Montana in Switzerland, we were struck with the merits of an examination platform and chair there in regular use. Dr. Andrew Morland, the Medical Superintendent, has kindly favoured us with the accompanying illustra-



AN EXAMINATION CHAIR AND PLATFORM.

tions, which indicate the nature and service of this simple but very effective contrivance. By the employment of this practical arrangement comfort is provided for both doctor and patient. All patients are placed at a height which is suitable for examination and particularly convenient for a long investigation. Repeated deep breathing and coughing can be carried out by the patient with less fatigue in the sitting position than when standing.

HYGIENIC APPLIANCES AND THERAPEUTIC PREPARATIONS.

Rest under open-air conditions and with an abundance of sunlight stands foremost among the agencies which prove of greatest benefit in the restoration of the tuberculous patient and in the building up of delicate constitutions predisposed to tuberculosis. As a means for securing rest and comfort not only for the sick and weary, but for all sorts and conditions of men and women, attention should be directed to the new "BODIFIT" CUSHION.¹ This is a novel air-cushion specially

¹ The "Bodifit" Cushion is supplied by Hamley Bros., Ltd., 200, Regent Street, W. 1. Price, in rubberized khaki, weighing 22 ounces, 17s. 6d.; or in corduroy coloured material, weighing 24 ounces, price 22s. 6d.

designed and shaped to give support to the body. It is constructed of durable rubberized khaki, or can be obtained in corduroy-like material and in dark blue, chestnut, golden brown, and auto smoke-grey colours. The cushion is readily inflated, and is so shaped, constructed, and fitted with means for attachment that it is available for use on all kinds of chairs and lounges, or for service when travelling by rail or boat. Doctors and others who are constantly driving a motor-car will find the "Bodifit" cushion an invaluable companion: it absorbs jolts, keeps the body close to the wheel and pedals, and gives more leg room, as well as affording welcome support for head, shoulders, and back. Once used, this cushion will always be used. It should also be noted that it is claimed to be of service as a life-preserver should an accident occur when boating.

Dust and dirt of every kind must be counted as agents which either excite or predispose to disease. This is particularly true in regard to tuberculosis. Not only is the exciting agent, the tubercle bacillus, conveyed from the tuberculous sufferer to other persons through the agency of dust, but dust also is a carrier of other organisms, and acts oftentimes as a mechanical agent in initiating catarrhal affections of nose, throat, and respiratory passages, and not infrequently originates asthmatic attacks. In the anti-tuberculosis campaign the prevention, collection, and destruction of dust must be considered of the utmost importance. In the hygienic management of every home and all hospitals, sanatoria, and other institutions, effective appliances for dealing with dust and dirt of every description must be provided. Chief among the means whereby a hygienic environment can be maintained are brushes, but it is essential that these should be of the right construction and properly employed. We have recently had opportunities of testing the various forms of brushes manufactured by the Kleen-e-ze Brush Company, and have no hesitation in strongly recommending them for domiciliary as well as institutional service. Every brush is of British manufacture, and is made from the most suitable materials procurable. The essential elements of each brush are securely fixed in the handle by a special twisting-in-wire method which makes for durability and efficiency. Each brush has two wearing sides, which also provides for long and effective service. The absence of wood or other perishable and adhesive materials for fixing, and the fact that the handles are specially treated to prevent absorption of any deleterious matter, enables each brush when required to be sterilized by dipping into boiling water, and so generally rendered hygienic, and this without impairing the efficiency of the brush. Moreover, these brushes are so designed and constructed as to minimize the risks of damage to furniture, fittings, woodwork, or other materials. The KLEEN-E-ZE BRUSHES certainly go far to lighten hospital and household tasks.¹ There seems to be a specially designed form of brush to meet every kind of domestic need, and these novel aids to hygienic service can be obtained at prices which bring them within the reach of all. Special forms of brushes are available for the care of the hair, the cleansing of dental plates, the dusting of hats, and

¹ Full particulars regarding all varieties of the Kleen-e-ze Brushes can be obtained on application to the manufacturers, the Kleen-e-ze Brush Co., Ltd., Whitehall, Bristol, or from the London Agency, Bridgeway House, Hammersmith Bridge Road, W. 6.

several forms are particularly suitable for use in the nursery and in connection with the hygienic management of children.

The firm of Joseph Gilbert and Sons have introduced under the designation of the CACHON TABLE SPOON,¹ a novelty which many patients will welcome. The spoon, which is made of Era silver, at the end of its handle is provided with a projection, which serves as a kind of guard, preventing the spoon slipping into dishes or other receptacles.

Under the name of KAYLENE there has recently been introduced a colloiddally reversible hydrated silicate of alumina specially prepared from china clay.² It possesses considerable adsorption powers, and appears to be of service in dealing with intestinal toxic conditions. For cases of tuberculous involvement of the intestines it would appear to merit a trial. Kaylene is now available in several forms. We have received specimens of Kaylene-ol, a palatable, stable emulsoid, with Colonol liquid paraffin; and Kaylene Saline, which, in addition to the Kaylene, is said to contain a small amount of simple laxatives. We understand there are other preparations, including Kaylene-ol, in which phenolphthalein is an ingredient.

ALLISATIN³ is a new garlic preparation, which promises to be of service in dealing with certain gastro-intestinal affections met with in many tuberculous subjects. Allisatin has been produced by utilizing the adsorptive properties of vegetable charcoal. The objectionable taste and odour of garlic is eliminated, and there are no disagreeable after-effects, while it is claimed that the full therapeutic activity of the natural drug is retained. Allisatin can now be obtained in tablet form.

TETMAL is a new antipyretic and analgesic which promises to be of service in certain cases of tuberculosis. It is caffeine-dimethyl-amino-phenyl-dimethyl-pyrazolon, and while reducing fever and relieving pain, is said not to depress the heart or induce a drug habit.⁴

¹ The Cachon Table Spoon is manufactured by Joseph Gilbert and Sons, Sun Works, Bissell Street, Birmingham.

² Particulars regarding the Kaylene preparations may be obtained on application to Kaylene, Ltd., 7, Mandeville Place, Wigmore Street, W. 1.

³ Specimen and particulars regarding Allisatin can be obtained on application to the Sandoz Chemical Co., Ltd., Bradford, Yorks.

⁴ Particulars regarding Tetmal can be obtained on application to Tetmal, Ltd., 45, Farringdon Street, E.C. 4.

THE OUTLOOK.

TUBERCULOSIS AND THE MINISTRY OF HEALTH.

IN the recently issued report of the Ministry of Health¹ and Sir George Newman's annual report² interesting data appear regarding tuberculosis in England and Wales and the means which are being taken to secure its prevention and arrest. On March 31, 1926, the number of Tuberculosis Officers working under the schemes of local authorities in England was 362, and the number of tuberculosis dispensaries approved was 443, exclusive of 40 out-patient departments of general hospitals and clinics approved for special forms of treatment. The total number of beds in residential institutions now amounts to 21,423 in 474 institutions. Orthopaedic schemes for tuberculous cripples are being promoted. Installations for treatment by artificial light have been approved at some twenty residential institutions and at six tuberculosis dispensaries. In London the County Council, with the approval of the Minister of Health, have made arrangements for an experimental period of one year to enable Metropolitan Borough Councils to send suitable tuberculosis cases for light treatment to certain of the London hospitals where facilities for the purpose are available. It is definitely stated that the Minister's approval of treatment by artificial light is to be regarded as for experimental purposes, as it is not yet possible for a considered opinion to be pronounced as to the scope and limits of utility of the treatment. While the experience so far available indicates that good results are obtainable in certain cases, it needs to be emphasized that the treatment is not altogether free from danger, and should always be carried out by competent and experienced persons and with close observation of the individual cases. The report of the Ministry of Health provides details regarding the financial arrangements. The gross expenditure of local authorities on their tuberculosis schemes during 1924-25 amounted to £2,849,815. The average number of occupied beds in institutions provided by local authorities was 11,622, and beds maintained by those authorities in institutions provided by voluntary bodies numbered 5,264, a total of 16,886. The average cost per patient per week amounted to 49s. 11d. The number of war pensioners receiving residential treatment for tuberculosis from local authorities on April 1, 1926, was 11,321. On December 31, 1925, there were on the registers of notifications kept by Medical Officers of Health for England and Wales 249,803 pulmonary cases (136,325 males and 113,478 females) and 89,658 non-pulmonary cases (46,255 males and 43,403 females). This gives a total of 339,461 cases. Sir George Newman in his informing and suggestive report provides a special section on tuberculosis. In it he supplies data and particulars which

¹ Seventh Annual Report of the Ministry of Health, 1925-1926. Pp. xiv + 204. London: H.M. Stationery Office. 1926. Price 3s. 6d.

² "On the State of the Public Health." Annual Report of the Chief Medical Officer of the Ministry of Health for the year 1925. Pp. 240. London: H.M. Stationery Office. 1926. Price 3s.

will be invaluable to all who desire knowledge regarding the progress of the tuberculosis movement in this country. The number of deaths registered from tuberculosis in England and Wales for 1925 was 40,387. The Chief Medical Officer of the Ministry of Health in reviewing the present position of the tuberculosis problem points out that there are five chief influences at work in securing a decline of the disease: (1) The progress of sanitary reform and factory legislation and increased attention paid to child welfare and diseases predisposing to tuberculosis. (2) An advance in social well-being and communal health from 1851 onwards. (3) The spread of knowledge of the contagiousness of the disease, particularly since 1881. (4) Special measures of prevention and treatment of tuberculosis. (5) An increase in the immunity and resistance of the population. And the lines on which an effective anti-tuberculosis campaign is to be carried out are defined by Sir George Newman as follows: "First, we must fortify the *powers of resistance of the individual* to disease by sound nutrition, the practice of hygiene, and, where practicable, by immunization. Secondly, we must prevent, if possible, the *spread of infection* by means of tuberculous milk or meat, as well as by contact. Thirdly, we must pay attention to *general health reform*, including adequate medical service, improved housing, lessened overcrowding, industrial welfare, the provision for open spaces, open-air schools and the open-air life, the school medical service, maternal and child welfare, and all measures directed against diseases which predispose to tuberculosis. Fourthly, we must *educate*. Lastly, we must apply effectively the *particular methods* which are already in operation—notification, domiciliary and dispensary supervision, sanatorium and hospital treatment, village settlements, and appropriate means of after-care. The whole tuberculosis service should be co-ordinated with its Medical Officer of Health." In the paragraph relating to education it is pointed out that a considerable step has been taken in the recognition by the public that tuberculosis is an infection rather than an hereditary disease. "It should also be recognized that, if taken in time, it is essentially a curable disease, that the great majority of people become *infected* with tuberculosis, whilst comparatively few *suffer* from it, and that a minor degree of exposure to infection may actually tend to make the individual more resistant to the disease. Massive and continuous infection is the danger to be feared." A lengthy account is given of the existing medical service for tuberculosis. "In order to achieve the best results in any scheme of anti-tuberculosis measures, an adequate medical service is necessary, including the practitioner, the school doctor, the Tuberculosis Officer, the Medical Superintendent of the residential institution, and the Medical Officer of Health. Each of these stands in an essential relation to the national scheme for dealing with the disease." Sir George Newman defines the respective duties in a series of illuminating paragraphs. With regard to the results of sanatorium treatment, the report admits that as it has often been worked the sanatorium has not yielded its full value. The causes of such relative failure are grouped as follows: (1) Late application of patients for treatment; (2) unwillingness of the patient to submit himself to the required regimen; (3) failure in selecting suitable cases, both as regards stage of the disease and as to psychology; (4) failure in administration of the sanatorium; (5) inadequate arrangements for after-care, a problem often seriously complicated by the social, occupational, and

financial circumstances of the patient. The report contains sections on village settlements and occupation colonies; operative and other methods of treatment; and there is a serviceable addendum on special vocational training centres. In the report of the Minister of Health a special section is devoted to the work of the Welsh Board of Health, and in this reference is made to tuberculosis in Wales and the service of the King Edward VII. Welsh National Memorial Association.

TUBERCULOSIS IN LONDON.

The recently issued report of the London County Council on public health, prepared by Dr. F. N. K. Menzies in collaboration with Sir William Hamer, contains a striking survey of the progress made in personal and public health during the past thirty-five years, and also furnishes information regarding the present position of the tuberculosis problem in the County of London.¹ The Registrar-General estimates the total population in the L.C.C. area in the middle of 1925 to have been 4,612,000, including 10,000 non-civilians. The deaths from tuberculosis of the respiratory system during 1925 numbered 4,361, giving a death-rate of 0.95 per 1,000, corresponding figures. The rate has declined since 1922 and preceding years, when it exceeded 1 per 1,000. The number of notifications received in London boroughs after correction was 9,661, as compared with 9,613 in 1924; of these 7,554 were cases of pulmonary tuberculosis. At the end of the year there were on the register prepared in accordance with the Public Health (Tuberculosis) Act of 1924 no less than 39,551 cases of pulmonary and 15,074 non-pulmonary tuberculosis. The report contains a detailed account of the evolution and present position of the L.C.C.'s Tuberculosis Scheme, together with statistical data and particulars regarding means now available for dealing with tuberculosis met with in men, women, and children.

THE GOLD TREATMENT OF TUBERCULOSIS.

The introduction of Professor Moellgaard's sanocrysin aroused great expectations which unfortunately have not been fulfilled. The new preparation has, however, received a thorough testing by scientific experts under the auspices of the Medical Research Council. The first report issued by the body was published in the *British Medical Journal*, April 18, 1925, p. 735, and a second report appeared in the same *Journal* for July 24, 1926, p. 158. The report deals almost entirely with the results of chemical experience, and contains records from St. Bartholomew's Hospital (Professor F. R. Fraser and Dr. C. F. Harris), the London Hospital (Professor A. Ellis), St. Mary's Hospital (Professor F. Langmead), St. Thomas's Hospital (Professor H. Maclean and Dr. G. T. Herbert), University College Hospital (Professor T. R. Elliott), Guy's Hospital (Dr. G. Marshall), Brompton Hospital (Dr. L. S. T. Burrell), Warwickshire King Edward VII. Memorial Hospital, Warwick (Dr. F. R. G. Heap), Centres in Wales (Professor S. Lyle Cummins), Edinburgh Royal Infirmary (Professor Sir Robert Philip and Professor D. Murray Lyon), Public Health Depart-

¹ "Annual Report of the London County Council, 1925." Vol. III., Public Health. London: P. S. King and Son, Ltd., Orchard House, Great Smith Street, Westminster, S.W. 1. 1926. Price 2s. 6d.

ment, Edinburgh (Dr. J. Guy), and Northern Ireland (Dr. A. Trimble and others). All of these communications throw valuable light on the claims of sanocrysin to serve as a therapeutic agent in the treatment of tuberculosis. The report closes with the following general summary which we venture to reproduce: "Experience in the selection and treatment of cases has greatly lessened the dangers attending the use of sanocrysin. The first collective report by the Medical Research Council described two deaths directly caused by sanocrysin out of a total of about thirty cases treated. This second report records only one similar fatality (Royal Victoria Hospital, Belfast) in a much larger number of cases treated—about 140. But the risk remains. There may be sudden or progressive exaggeration of the more serious symptoms of the tuberculous infection, or there may be a poisoning of the kidney, of the liver, and even of the skin with a drug dermatitis which is quite distinct from the relatively transient rash. All these dangerous features are far more liable to arise in the sanocrysin treatment of tuberculous patients than in the use of salvarsan for syphilitic or other infections. All patients under treatment must, therefore, be in bed and under close medical control. In the last twelve months it has become the custom to give smaller doses of sanocrysin and at longer intervals than those used with the cases described in the first report. The patient is thereby spared from dangerous reactions and even from any great discomfort. It is, however, debatable whether this attenuation of the treatment for the sake of the patient's immediate welfare may not have the disadvantage of lessening the final benefit. The arguments on either side are given in two recent books by Secher and Würtzen respectively, when describing clinical results obtained in Copenhagen. The special serum has rarely been used, and there is no fresh experience to record about it. Nor is there much more evidence upon the question whether a well-marked reaction to sanocrysin can be accepted as a diagnostic test for tuberculous infection. It would, indeed, appear from the reactions seen by Fournier and Mollaret in the treatment of human syphilis with a similar gold salt that such reactions are not specific for tuberculosis. As in the first report, it was again evident that there may be an advantage in collecting evidence from different clinical observers as to the possible benefit of sanocrysin treatment. Some thought that nothing more was seen than might have been expected as the result of prolonged rest under hospital or sanatorium control. But others were very emphatically of the opinion that sanocrysin did cause unusually quick amelioration of all the features of a tuberculous infection, especially in the lessening of sputum and disappearance of tubercle bacilli. The question of secondary infections of the lung tissue by other organisms has not been dealt with. The results described are considered only in their broad aspect of clinical recovery or deterioration, for there are no laboratory tests yet available for analysis of any possible changes in a patient's powers of resistance to tuberculous infection. The Medical Research Council received, by the generous courtesy of Professor Moellgaard, a free supply of sanocrysin and serum for trial in Great Britain over a period of twelve months. The trial has shown how dangers may be averted, and, in the opinion of some workers, it has given indication that along the line of some such substance as sanocrysin there is definite hope of a drug treatment that will check the progress of a tuberculous infection and

allow the patient's natural powers of resistance better play in finally arresting the disease. These various clinical reports, for which the Council is greatly indebted to the observers, will suffice to indicate to the medical profession the general need for extreme care in the use of sanocrysin, and also the particular types of infection in which it may be expected to cause some improvement."

EUGENICS AND TUBERCULOSIS.

Major Leonard Darwin in his suggestive studies on the principles and practice of eugenics devotes a section to the consideration of tuberculosis.¹ We venture to reproduce his conclusions: "In preventing the development of this disease [tuberculosis], good environment counts for much, and medical science has certainly helped to cause the recent fall in the death-rate for tuberculosis, but it has not been as important a factor as medical men generally believe. Between different individuals there exists differences in their natural predisposition to disease, and on these differences selection has acted, thus having slowly made the race more immune. Selection can only account, however, for a minor part of the fall in the tubercular death-rate which has taken place in recent years, a fall which could be, however, continually promoted in some measure in the future by eugenic reforms. The slackening in the rate of the decrease in this death-rate which has been noticeable for at least a century was partly because, as curative methods were improved, the cases in which no cure was effected became on the average increasingly difficult to deal with, and partly because of the effect of the greater immunity resulting from selection; but as here we appear to find an inadequate explanation of what has occurred, we cannot but ask whether there may not have been some hitherto unrecognized environmental factor also at work. Many of these questions are still in doubt, but there can be no doubt that a diminution in the fertility of all tubercular patients would be a blessing to mankind."

MOTORING FOR TUBERCULOUS SUBJECTS.

The motor-car has brought happiness and increased health for men, women, and children everywhere. It provides hygienic conditions for the delicate and means for the application of therapeutic measures for many disordered, crippled, and diseased. As an agent in the treatment of tuberculous and tuberculously disposed children and adults the motor-car is now recognized as invaluable. More than a score of years ago, when the value of the open-air life for consumptives was beginning to be generally acknowledged, the donor of the Mount Vernon Hospital at Northwood, Middlesex, the late Mr. C. D. Rudd, with statesman-like vision and a warm sympathy with consumptive sufferers, provided a car and means whereby tuberculous patients could be given outings under strict medical supervision, and their value psychologically and therapeutically estimated. Since those days the motor-car has been perfected, roads improved, dust diminished, and the financial outlay

¹ "The Need for Eugenic Reform." By Leonard Darwin. Pp. xvii + 529. London: John Murray, 50a, Albemarle Street, W. 1. 1926. Price 12s.

considerably lessened. Moreover, medical advisers and thoughtful men and women generally now realize more clearly the importance of the open-air life in resisting disease and in arresting tuberculosis and other disorders. We have learned much regarding the healing influences of sunlight, moving air, and proper psychological states. The doctor finds a car indispensable for the conduct of his professional duties; and in the maintenance of hospital, sanatorium, ambulance, and like endeavours for the assistance of all sorts and conditions of afflicted folk the automobile is a necessity. As evidence of the above contentions and as proof of the wonderful development of the motor we would direct attention to the new edition of "The Dunlop Guide."¹ This is a remarkably complete directory and vade-mecum for all motorists. It contains a Road Atlas of Great Britain; an alphabetically arranged guide to towns and places of interest, detailing distance from London, population, parking places, hotels, repairers, routes, features of interest, etc.; and a miscellany of practical information. The volume also contains helpful maps of the chief cities and towns, with plans of cathedrals, abbeys, and minsters. There are also particulars regarding the popular Dunlop Touring Service Bureau. No owner of a car can afford to be without this really wonderful compilation.

NOTES AND RECORDS.

We have received the following Memorandum from the Minister of Health regarding tuberculous ex-service men: "It has been brought to the notice of the Minister of Health that there are at present a number of vacant beds at the Cambridgeshire Tuberculosis Colony, Papworth, the East Lancashire Tuberculosis Colony, Barrowmore Hall, and the British Legion Village Sanatorium and Training Colony, Preston Hall. As the local authority are doubtless aware, special facilities for training have been provided at these colonies, and whilst the last-named colony is reserved entirely for ex-service men, whether war pensioners or not, the other two colonies receive civilian as well as ex-service cases. At all three colonies arrangements have been made for the reception and treatment of cases of pulmonary tuberculosis even of the severest type. The Minister will be glad if local authorities will consider the desirability of utilizing these colonies for the treatment of tuberculous men, especially ex-service men, whether war pensioners or not, who are considered suitable by the tuberculosis officer for treatment in any of the colonies."

The last report of the Metropolitan Asylums Board contains data and articles of special interest to students of tuberculosis, and particularly to workers dealing with London's tuberculous children.² On December 31, 1925, the number of tuberculosis patients under treatment in M.A.B. institutions numbered 1,600. The Grove Park hospital was opened for the care of advanced consumptives on February 9

¹ "The Dunlop Guide to Great Britain." Pp. xvi+927. With 31 double-page section maps and numerous small maps and plans. Published for the Dunlop Rubber Co., Ltd., by Edward J. Burrow and Co., Ltd., Cheltenham and London. 1926. Price 5s.

² "The Annual Report of the Metropolitan Asylums Board for the Year 1925-26." The twenty-eighth year of issue. Adopted by the Board, July 24, 1926. Pp. 366. Issued from the M.A.B. Offices, Victoria Embankment, E.C. 4. 1926. Price 5s.

of this year. The volume contains a number of signed communications from medical officers in the tuberculosis service of the M.A.B., and include the following: "Some Difficulties in the search for 'Early Cases' in Pulmonary Tuberculosis," by Dr. W. C. Fowler, medical superintendent at Pinewood Sanatorium; "On the Treatment of Pulmonary Tuberculosis by Artificial Pneumothorax," by Dr. James Watt, chief medical officer in the medical tuberculosis service of the Board; "The Relative Value of Open Air, Sunlight, and Artificial Light in Treatment," Dr. W. T. Gordon Pugh, chief medical officer in the children's and surgical tuberculosis services of the Board; "The Pathological Diagnosis of Bone and Joint Tuberculosis," by W. M. Oakden, F.R.C.S., medical superintendent of St. Luke's Hospital, Lowestoft; "Balneotherapy at Millfield, Rushington, Sussex," by C. E. Last, visiting medical officer. The volume contains a number of instructive illustrations.

The recently issued report of the Queen Alexandra Sanatorium Fund shows that during the past year thirty-five patients have been assisted. Before October, 1925, patients were accommodated together in a pension, but since that date they are allowed to make their own arrangements, and each are allowed a grant of £2 a week.¹

The twenty-second annual report of the Newhaven County Anti-Tuberculosis Association concerning the work of the Gaylord Farm Sanatorium not only contains interesting data regarding the development of this institution, but furnishes a number of instructive full-page illustrations of buildings connected with the sanatorium.

The Cambridge Tuberculosis Colony, Papworth, has issued an illustrated Report of the Medical Director, Dr. P. C. Varrier-Jones, giving full particulars regarding the evolution and present position of this pioneer settlement for tuberculous subjects.

The Charity Organization Society renders all workers for human betterment in and about London a splendid service by the annual issue of its Register and Digest.² It is a complete, up-to-date, effectively arranged guide to all forms of philanthropic and charitable endeavour and enterprise, and a Directory of Institutions of every kind for necessitous cases. Particulars are given of hospitals for consumptives, various sanatoria colonies, homes for tuberculous children, and centres for advanced cases.

The National Association for the Prevention of Tuberculosis has moved its office from 20, Hanover Square, W. 1, to 19, Tavistock Square, W.C. 1 (Telephone: Museum, 2577).

In connection with the autumn course of free public lectures delivered in the Lecture Hall of the Royal Institute of Public Health, 37, Russell Square, W.C. 1, on Wednesday afternoons, October 13 to December 8, at 4 p.m., the following will be of special interest to students of the tuberculosis problem: October 27, "Town Planning in Relation to Health," by Professor L. P. Abercrombie; Novem-

¹ Full particulars regarding the Queen Alexandra Sanatorium Fund may be obtained on application to the Hon. Secretary, Mr. D. Vesey, 97, Warwick Road, Earl's Court, S.W. 5, or the local Secretary, Mr. C. Healy, Pension Barz, Davos-Platz, Switzerland.

² "The Annual Charities Register and Digest, being a Classified Register of Charities in or available for the Metropolis." Thirty-fourth edition. Pp. 31+xx+550. London: Longmans, Green and Co., Ltd., and Charity Organization Society, Denison House, Vauxhall Bridge Road, S.W. 1926. Price 8s. 6d.

ber 3, "Ventilation in Relation to Health," by Dr. H. M. Vernon; November 24, "From Heliotherapy to Heliohygiene," by Dr. C. W. Saleeby; December 1, "Settlements for Tuberculous Workers," by Dr. P. C. Varrier-Jones.

The University Sanatorium at Leysin, in Switzerland, conducted for the treatment and care of forty students who have broken down with tuberculosis and affections requiring hygienic management at this climatic station, is now provided with a special radio installation whereby University lectures can be broadcasted to those confined to their own beds.

The American National Tuberculosis Association is publishing a "Technical Series" of brochures. No. 6, "Planning a Tuberculosis Sanatorium," by T. B. Kidner, summarizes the latest and best available information regarding the planning and construction of hospitals and sanatoria for tuberculous subjects.¹

The Editor of this journal will be greatly obliged if Medical Officers of Health, Tuberculosis Officers, and Medical Superintendents of hospitals and sanatoria for tuberculosis cases will be good enough to favour him with a copy of their Annual Reports as soon as they are issued, and any other publications dealing with the Tuberculosis Problem will be welcomed.

¹ Particulars regarding the "Technical Series" and other publications of the American National Tuberculosis Association can be obtained on application to 370, Seventh Avenue, New York City.

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